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NATIONAL DAM SAFETY PROGRAM. MYOSOTIS LAKE DAM (INVENTORY NUMBE--ETC(U)
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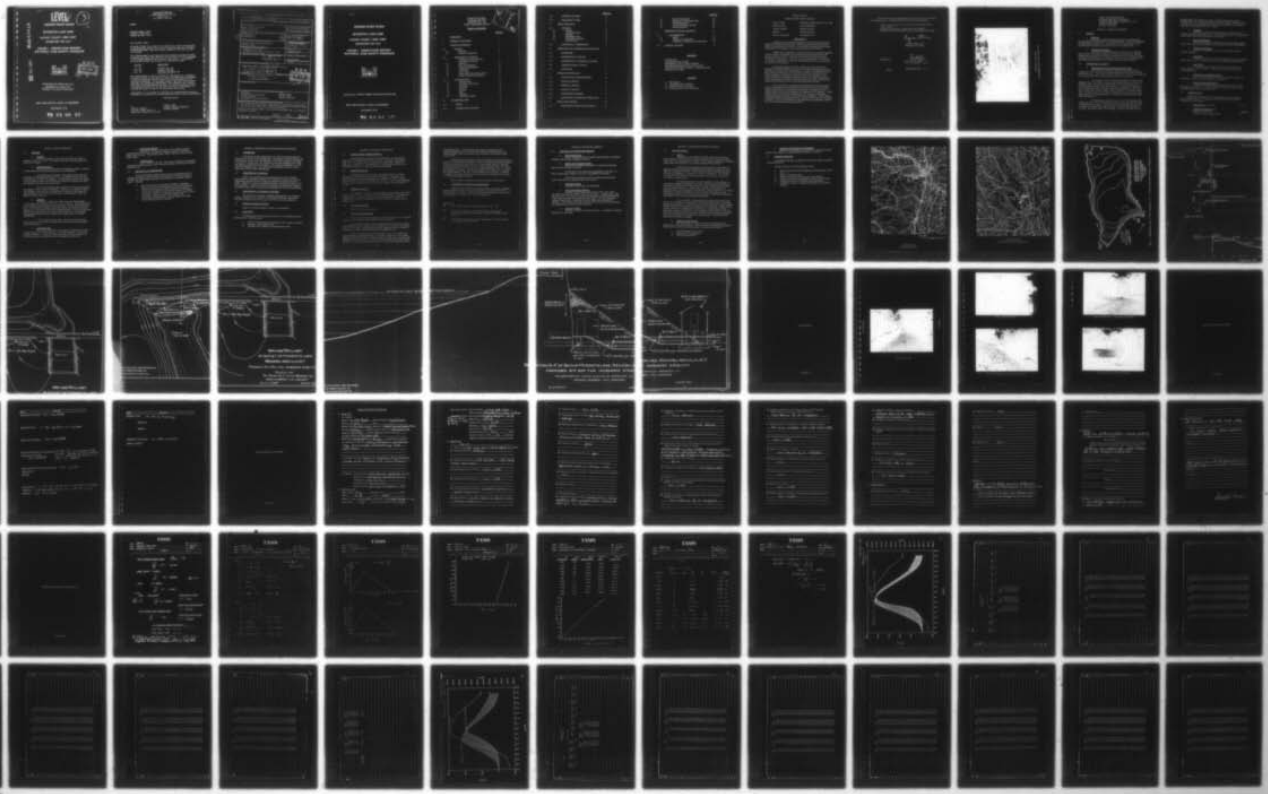

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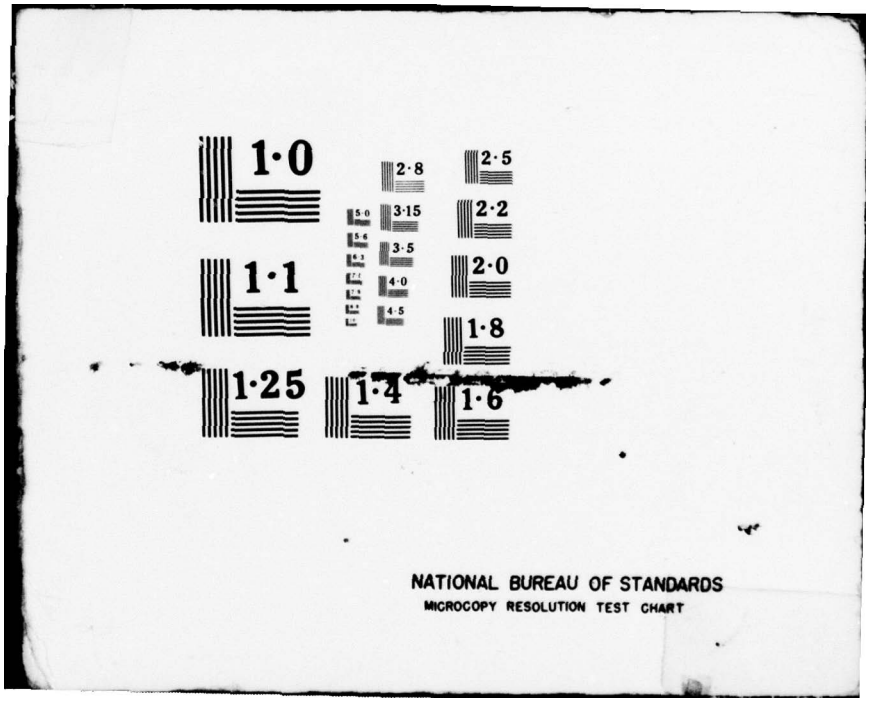
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LEVEL II

(3)

HUDSON RIVER BASIN

MYOSOTIS LAKE DAM

ALBANY COUNTY, NEW YORK

INVENTORY NO. 670

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM

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CONTRACT NO. DACW-51-78-C-0024

NEW YORK DISTRICT CORPS OF ENGINEERS

SEPTEMBER 1978

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, NEW YORK
26 FEDERAL PLAZA
NEW YORK, NEW YORK 10007

NANEN-P

Honorable Hugh L. Carey
Governor of New York
Albany, New York 12224

Dear Governor Carey:

Reference is made to my letter of 2 October 1978 in which clarification of the guidelines used by this office in assessing dams with "seriously inadequate spillways" under the National Program of Inspection of Dams was outlined.

The following dams in your state have been assessed as having seriously inadequate spillways, with capability to pass safely only the percentage of the probable maximum flood as noted in each report. In accordance with revised criteria they are now to be assessed as unsafe:

I.D. NO.	NAME OF DAM
N.Y. 345	Pleasure Lake Dam
N.Y. 670	Myosotis Lake Dam
N.Y. 54	Tarrytown Waterworks Dam

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

Consequently, it is advisable to implement the recommendations previously furnished in the reports for the above-mentioned dams as soon as practicable.

Sincerely yours,

CLARK H. BENN
Colonel, Corps of Engineers
District Engineer

cc:
Barbero, Descenza
Iarrobino (NAD), Exec Ofc
Engrg File, George Koch, NYS DEC

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. 3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Phase I Inspection Report Hudson River Basin Myosotis Lake Dam Albany County, New York Inventory No. N.Y. 670	5. TYPE OF REPORT & PERIOD COVERED Phase I Inspection Report National Dam Safety Program 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) (14) Eugene O'Brien	8. CONTRACT OR GRANT NUMBER(s) (15) DACW 51-78-C-0024
9. PERFORMING ORGANIZATION NAME AND ADDRESS Tippetts-Abbett-McCarthy-Stratton 345 Park Avenue New York, New York 10021	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS (11) Sep 78
11. CONTROLLING OFFICE NAME AND ADDRESS Department of the Army 26 Federal Plaza / New York District, CofE New York, New York 10007	12. REPORT DATE 22 November 1978 13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office) (12) 83p.	15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report) Inventory no.

Approved for public release; Distribution unlimited.

(6) National Dam Safety Program. Myosotis Lake Dam (NY-670), Hudson River Basin, Albany County, New York. Phase 1 Inspection Report,

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18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Dam Safety
National Dam Safety Program
Visual Inspection
Hydrology, Structural Stability
Albany County
Ten-Mile Creek
Myosotis Lake Dam

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization.

Myosotis Lake Dam was judged to be unsafe-non-emergency due to a seriously inadequate spillway.

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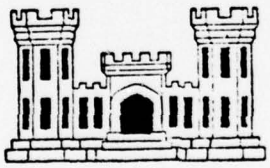
HUDSON RIVER BASIN

MYOSOTIS LAKE DAM

ALBANY COUNTY, NEW YORK

INVENTORY NO. 670

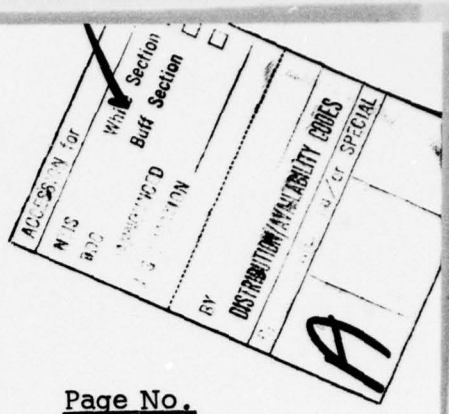
PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM



Prepared by: TIPPETTS-ABBETT-McCARTHY-STRATTON

NEW YORK DISTRICT CORPS OF ENGINEERS

SEPTEMBER 1978



HUDSON RIVER BASIN
MYOSOTIS LAKE DAM
INVENTORY NO. 670
PHASE I INSPECTION REPORT

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PHASE I REPORT

NATIONAL DAM SAFETY PROGRAM

Name of Dam:	MYOSOTIS LAKE DAM (I.D. No. 670)
State Located:	NEW YORK STATE
County Located:	ALBANY COUNTY
Stream:	TEN-MILE CREEK
Date of Inspection:	31 AUGUST 1978

ASSESSMENT

Examination of available documents and visual inspection of the Myosotis Lake Dam and appurtenant structures did not reveal conditions which are considered to be unsafe. Some existing inadequacies regarding maintenance and operation of the project features were observed.

Using Corps of Engineers screening criteria, the maximum spillway capacity without overtopping the dam is equal to 26 percent of the PMF and 59 percent of the SPF. Under the PMF and SPF discharge the dam would be overtopped by 3.7 feet and 1.3 feet respectively. The spillway is, therefore, adjudged as seriously inadequate and the dam is assessed as unsafe, non-emergency.

The classification of "unsafe" applied to a dam because of a seriously inadequate spillway is not meant to connote the same degree of emergency as would be associated with an "unsafe" classification applied for a structural deficiency. It does mean, however, that based on an initial screening, and preliminary computations, there appears to be a serious deficiency in spillway capacity so that if a severe storm were to occur, overtopping and failure of the dam would take place, significantly increasing the hazard to loss of life downstream from the dam.

It is, therefore, recommended that within three months from the date of notification to the Governor of the State of New York, the owners engage the services of a professional consultant to determine by more sophisticated methods and procedures the adequacy of the spillway. Within twelve months of the date of notification to the governor, appropriate remedial mitigating measures should have been completed. In the interim, a detailed emergency operation plan and warning system should be promptly developed. Also, during periods of unusually heavy precipitation, around-the-clock surveillance should be provided.

No remedial measures are required to assure the safety of the dam at the present time. Certain measures are recommended regarding:

- Repair of the spillway slab and the left side entrance wall of the spillway
- Programs for operation, maintenance and inspection
- Removal of shrubs and saplings from all locations on the dam.

Eugene O'Brien

Eugene O'Brien, P.E.
New York No. 29823

Approved by: Clark H. Benn

Col. Clark H. Benn
New York District Engineer

Date: 1978 November 2-2

OVERVIEW OF THE DAM

DOWNSTREAM SLOPE AND GATEHOUSE

PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
MYOSOTIS LAKE DAM, INVENTORY NO. 670
HUDSON RIVER BASIN
ALBANY, NEW YORK

SECTION 1 PROJECT INFORMATION

1.1 GENERAL

a. Authority

The Phase I inspection reported herein was authorized by the DEPARTMENT OF THE ARMY, NEW YORK DISTRICT, CORPS OF ENGINEERS by letter dated 31 March 1978, in fulfillment of the requirements of the National Dam Inspection Act, Public Law 92-367, 8 August 1972.

b. Purpose of Inspection

The purpose of this inspection and report is to investigate and evaluate the existing conditions of subject dam in order to: identify deficiencies and hazardous conditions; determine if they constitute hazards to human life or property; and notify the State of New York of these results along with recommendations for remedial measures where necessary.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam and Appurtenant Structures

The Myosotis Lake Dam is composed of a 240-foot long rockfill dam and 36.7-foot long ungated spillway located between the dam and the left bank. The low level release consists of a 12-inch pipe controlled by a 12-inch gate valve in the gatehouse at the toe of the dam.

The straight part of the dam crest extends 116 feet from the spillway; then, for 118 feet, it forms a slight downstream curvature. The upstream slope of the dam is approximately 1(V) to 2(H) above the pool level and becomes flatter below the pool level. The width of the crest is 11.5 feet which includes a masonry parapet approximately 1.3 feet wide and 3.5 feet high. The downstream slope is formed by a vertical masonry wall, 7.5 feet of which are exposed. Dumped stone forms a 2-foot wide berm adjacent to the vertical wall; the remainder of the downstream slope below the berm is 1:1.

The spillway is formed by a 37.6-foot wide channel with a broad crest at El. 1691. The approach surface is very flat and is limited by entrance masonry walls: 5-foot and 11-foot high on the left side, and 8.5-foot and 11-foot high on the right side. The provided freeboard is 8.5 feet. The inclined part of the channel, a masonry structure with the

gunited surface over reinforcing steel, is 60 feet long and has 1(V) to 4.7(H)± slope. The channel ends with a horizontal concrete platform which is dotted by 4-inch± embedded stone for energy dissipation. The masonry side walls of the channel have 1:1.5 slope.

b. Location

The dam is located on Ten-Mile Creek, a tributary of the Catskill Creek and the Hudson River. The nearest community, Rensselaerville, is less than one-half mile downstream from the dam.

c. Size Classification

The dam is less than 40 feet high and has a storage capacity of less than 1000 acre-feet, therefore it falls under a "small" size category.

d. Hazard Classification

The dam is considered to be in the "significant" hazard potential category.

e. Ownership

Myosotis Lake Dam is owned and operated by the Edmund Niles Huyck Preserve, Inc., and forms a part of the Biological Research Station.

f. Use of Dam

The impoundment provided by the dam served previously to run sawmills. It now provides a water storage reservoir for the town of Rensselaerville.

g. Design and Construction History

The lake was impounded around 1800; however, there is no information available on either design or construction.

h. Normal Operating Procedures

Water from Myosotis Lake is released through the 12-inch low release gate valve in an amount to ensure a continuing supply to the downstream community of Rensselaerville.

1.3 PERTINENT DATA

Elevations are referred to an assumed Datum Plane used in the survey prepared by Frank R. Lanagan, and revised July, 1940; and are 170 feet above USGS Datum.

a.	Drainage Area, sq. miles	6.57
b.	Discharge at Dam Site, cfs	
	Maximum flood at site	Unknown
	Maximum regulating gate outlet	12

Ungated spillway at maximum pool, El. 1699.5	2808
Total discharge capacity at maximum pool, El. 1699.5	2820

c. Elevations

Top of Dam	1699.5
Spillway crest	1691
Invert of 12-inch discharge pipe inlet	1680
outlet	1666

d. Reservoir

Length of pool at El. 1691, miles	0.7
Length of shoreline at El. 1691, miles	1.7
Surface area at El. 1691, acres	98.3

e. Storage, acre-feet

Top of Spillway crest (El. 1691)	1125
Top of Dam (El. 1699.5)	1975

f. Dam

Type: Rockfill and rubble masonry retaining wall
Length: 277± feet including spillway
Height: 22± feet above ground
Top width: 11.5 feet
Side slopes: 1(V) to 2(H) upstream; vertical wall and 1(V) to 1(H) downstream.

g. Spillway

Type: Broad crest
Length: 36.7 feet
Crest elevation: 1691
Gates: Ungated
Upstream channel: None
Downstream channel: 200± - foot long channel in a riverbed, joins Ten-Mile Creekbed.

h. Regulating Outlets

A 12-inch pipe, which has no protection at the inlet, is regulated by a 12-inch gate valve at the downstream end. The invert is at El. 1680 at the upstream end of the pipe and at El. 1666 at the downstream end.

SECTION 2 ENGINEERING DATA

2.1 DESIGN

There is no information available as to when and by whom the dam has been designed.

2.2 CONSTRUCTION RECORDS

No construction records are available. However, the following drawings are available:

1. Proposed Reconstruction of Spillway, Myosotis Lake Dam, July 1913
2. Dam and Spillway at Outlet of Myosotis Lake - Proposed Riprap for Increased Stability, August 1933
3. Section A-A of Dam at Myosotis Lake - Proposed Riprap for Increased Stability, August 1933.

2.3 OPERATION RECORDS

There does not exist any written record of operation of the gate valve at the dam, and also no records of maintenance and repair work orders. Also there does not exist an operation and maintenance manual for the project. No records of pool elevation and rainfall at the site are available. The only operational function of the dam is the change in opening of the low-level control. This function is performer by the Director of the Preserve.

2.4 EVALUATION OF DATA

The available data reviewed in conjunction with the visual inspection were considered adequate for this Phase I inspection and evaluation of safety.

SECTION 3 VISUAL INSPECTION

3.1 FINDINGS

a. General

A visual inspection of Myosotis Lake Dam was made on Thursday, August 31, 1978. The weather was rainy; the temperature was in the 70-75° range.

b. Embankment Dam

There were no visible signs of sloughing, erosion, cracking or other distress on the crest and slopes of the embankment.

The crest is grass-covered. The upstream slope from the crest down to the approximate elevation of the spillway crest is covered by grown trees, bushes and saplings. The downstream slope in the central part of the dam is clear of all vegetation; toward both abutments the slope is covered by brush and some grown trees.

Due to the prevailing rainy weather on the day of inspection, the seepage, if any, was not detectable. However, Dr. Dalgleish, Executive Director of the Preserve, reported that no seepage or wet areas had been observed by him at any part of the dam or the abutments during his frequent visits to the dam.

c. Spillway

At the time of inspection water level was approximately 2.5 feet below the spillway crest, i.e., at El. 1688.5±. The sloped portion of the spillway floor has been gunited previously over the reinforcing steel mesh. At the time of inspection there were cracks and erosion in several places of it. Some cracks have been patched recently. The lower horizontal portion with embedded stones for energy dissipation was in good shape. Scouring downstream from the spillway was localized and of a limited significance.

A 5-foot high retaining wall at the left entrance shoulder of the spillway was cracked and upper layers of masonry were dislocated under soil pressure.

d. Regulating Valve

The 12-inch gate valve is housed in a gatehouse built from concrete blocks at the toe of the dam. The valve appeared to be in good operable condition. A small leak around the stem and slight corrosion of the valve body do not preclude a normal functioning of the valve.

e. Downstream Channel

Although the channel downstream of the spillway tailrace contained trees and bushes, its present condition would not impede discharges from the dam. The channel enters, after a short run, the Ten-Mile Creek valley.

f. Reservoir Area

In the vicinity of the dam, there was no evidence of sloughing, potentially unstable slopes or other unusual conditions which would adversely affect the dam.

3.2 EVALUATION OF OBSERVATIONS

Visual observations made during the course of inspection did not indicate any serious problems which would adversely affect the safety of the dam and require either immediate investigation or immediate remedial action. However:

a. The growth of heavy unmanaged vegetation, especially trees, on slopes of the embankment should be discouraged.
b. Cracking and erosion of gunite surfaces in the spillway slab are not considered to represent a danger to the safety of the dam. However, a permanent solution should be found to provide a stable surface for the spillway slab.
c. The masonry retaining wall at the left entrance shoulder of the spillway should be repaired.

SECTION 4 OPERATIONAL AND MAINTENANCE PROCEDURES

4.1 PROCEDURES

The amount of water released from the lake is governed solely by the needs of the town of Rensselaerville. The release is effected through the 12-inch pipe. Since 1966, the fluctuation of the lake surface was reported to be up to 30 inches above the spillway crest during springtime rain, with the maximum observed being 36 inches, and a minimum drawdown of 10 feet below the spillway crest. The latter level corresponds to the top of the inlet of the 12-inch water release pipe.

4.2 MAINTENANCE OF THE DAM

There is no operation and maintenance manual for the project. The reservoir is frequently visited by Dr. Dalgleish; however, he does not necessarily examine the dam or other project features at the time of his visits. There is no formally established program of inspection visits by the State engineers. Repairs to the dam and spillway are made when required. No regular maintenance procedures are established for the dam and spillway.

4.3 MAINTENANCE OF OPERATING FACILITIES

The gate valve is manually operated and appeared to be operable insofar as equipment was visible. It was reported that the maintenance was done 3 times in the last 14 years, the last one several years ago.

4.4 WARNING SYSTEM IN EFFECT

There is no warning system in effect or in preparation.

4.5 EVALUATION

The maintenance of the Myosotis Lake Dam is considered less than adequate in the following areas:

a. Control of heavy brush and saplings on the surface of the dam.
b. Disrepair of the spillway slab.
c. Disrepair of the spillway left side entrance wall.

SECTION 5 HYDRAULIC/HYDROLOGIC

5.1 DRAINAGE BASIN CHARACTERISTICS

Myosotis Lake is located on Ten-Mile Creek, about one-half mile west of Rensselaerville in Albany County, New York. The drainage basin, of 6.57 square miles, is rectangular in shape with a length to width ratio of about 2.5. Approximately 75% of the basin is natural and reforested woodlands, and 25% farmsteads and orchards.

5.2 SPILLWAY CAPACITY

Discharge from Myosotis Lake is possible through a 12-inch diameter low level outlet and a spillway channel 36.7 feet wide. It is estimated that the discharge capacity of the spillway is 2808 cfs when the lake level is at the top of the dam (El. 1699.5). The computed discharge of the low level outlet with the water level at spillway crest elevation is 12 cfs.

5.3 RESERVOIR CAPACITY

The capacity of Myosotis Lake (supplied by the Edmund Niles Huyck Preserve, Inc.) is 366.5 million gallons or 1125 acre-feet. The computed surcharge storage between spillway crest elevation and top of dam is 850 acre-feet, which is equivalent to about 2.4 inches of runoff over the entire basin.

5.4 FLOODS OF RECORD

There are no records of floods.

5.5 OVERTOPPING POTENTIAL

The project discharge capacity was compared with both the Probable Maximum Flood (PMF) and the Standard Project Flood (SPF).

The Probable Maximum 6-hour rainfall for the Myosotis Lake area was determined as 22.2 inches,[1] and based on EC 1110-2-27 was reduced 20% to 17.76 inches. The distribution of the rainfall was based on data in a publication of the World Meteorological Organization.[2]

Based on the Soil Conservation Service curve number method the rainfall excess was determined as 16.49 inches. Because of the physical features of the basin, with two streams flowing into the lake, the basin was divided into two sub-basins. Triangular unit hydrographs were developed[3] for each sub-basin and subsequently used to compute their respective PMF

runoff hydrographs. The hydrograph was formed by adding the PMF runoff hydrographs from each sub-basin to the runoff resulting from the rainfall directly on the lake surface, and resulted in a flood inflow peak of 10,918 cfs.

The potential of the water overtopping the dam was investigated on the basis of the available surcharge storage and spillway discharge capacities to meet a potential emergency inflow. It was assumed that the lake level at the start of the flood inflow was at El. 1691 (spillway crest). The PMF caused the level of the lake to rise to a maximum elevation 1703.2, 3.7 feet above the top of the dam. The peak discharge was 10,598 cfs or 3.8 times the outflow capacity. The SPF, usually taken as one-half PMF, produced a maximum lake level elevation of 1700.8 and a peak discharge of 4740 cfs, 1.7 times the spillway capacity.

The low level conduit was assumed inoperable during floods.

5.6 EVALUATION OF HYDROLOGY/HYDRAULICS

Using Corps of Engineers screening criteria, the maximum spillway capacity without overtopping the dam is equal to 26 percent of the PMF and 59 percent of the SPF. Under the PMF and SPF discharge the dam would be overtopped by 3.7 feet and 1.3 feet, respectively.

1/ U.S. Weather Bureau, Technical Paper No. 40. 1961

2/ Manual for Estimation of Probable Maximum Precipitation, World Meteorological Organization, Operation Hydrology Report, No. 1973.

3/ Flood Hydrographs Analyses and Computations EM 1110-2-1405, U.S. Corps of Engineers 1959.

SECTION 6 STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observation

Visual observation did not indicate either existing or potential problems with the dam or spillway sections.

b. Design and Construction Data

There exist no design computations or other data regarding the structural stability of the dam.

On the basis of the performance experience of the dam, as well as engineering judgment, the dam is considered to be stable.

Performance experience with the maximum observed water level 3 feet above the spillway crest level is good.

c. Operating Records

Operating records were not maintained.

d. Post-Construction Changes

Minutes of the Preserve record that in 1934 "1475 loads (or yards) of stone were added to the face of the dam". Besides this, under the same year: "The twelve-inch diameter discharge pipe was extended and a new valve installed, and gatehouse constructed". In 1962 the present spillway was enlarged, eliminating an arch bridge which crossed the spillway. The increased clearance permits ice to pass through unobstructed. No subsequent ice jams have been observed.

e. Seismic Stability

The dam is located in Seismic Zone No. 1, therefore no seismic analyses are warranted.

SECTION 7 ASSESSMENT/REMEDIAL MEASURES

7.1 DAM ASSESSMENT

a. Safety

Examination of available documents and visual inspection of the Myosotis Lake Dam and appurtenant structures did not reveal conditions which are considered to be unsafe. Some existing inadequacies regarding maintenance and operation of the project features were observed.

Using Corps of Engineers screening criteria, the maximum spillway capacity without overtopping the dam is equal to 26 percent of the PMF and 59 percent of the SPF. Under the PMF and SPF discharge the dam would be overtopped by 3.7 feet and 1.3 feet, respectively. The spillway is, therefore, adjudged as seriously inadequate and the dam is assessed as unsafe, non-emergency.

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It is, therefore, recommended that within three months from the date of notification to the Governor of the State of New York, the owners engage the services of a professional consultant to determine by more sophisticated methods and procedures the adequacy of the spillway. Within twelve months of the date of notification to the governor, appropriate remedial mitigating measures should have been completed. In the interim, a detailed emergency operation plan and warning system should be promptly developed. Also, during periods of unusually heavy precipitation, around-the-clock surveillance should be provided.

b. Adequacy of Information

The information and visual inspection were adequate for performance of this investigation. However, there is inadequate information with regard to operation and maintenance of the project as follows:

1. Record drawings of the project
2. Operation and maintenance
3. Record of inspections.

c. Necessity for Additional Investigations

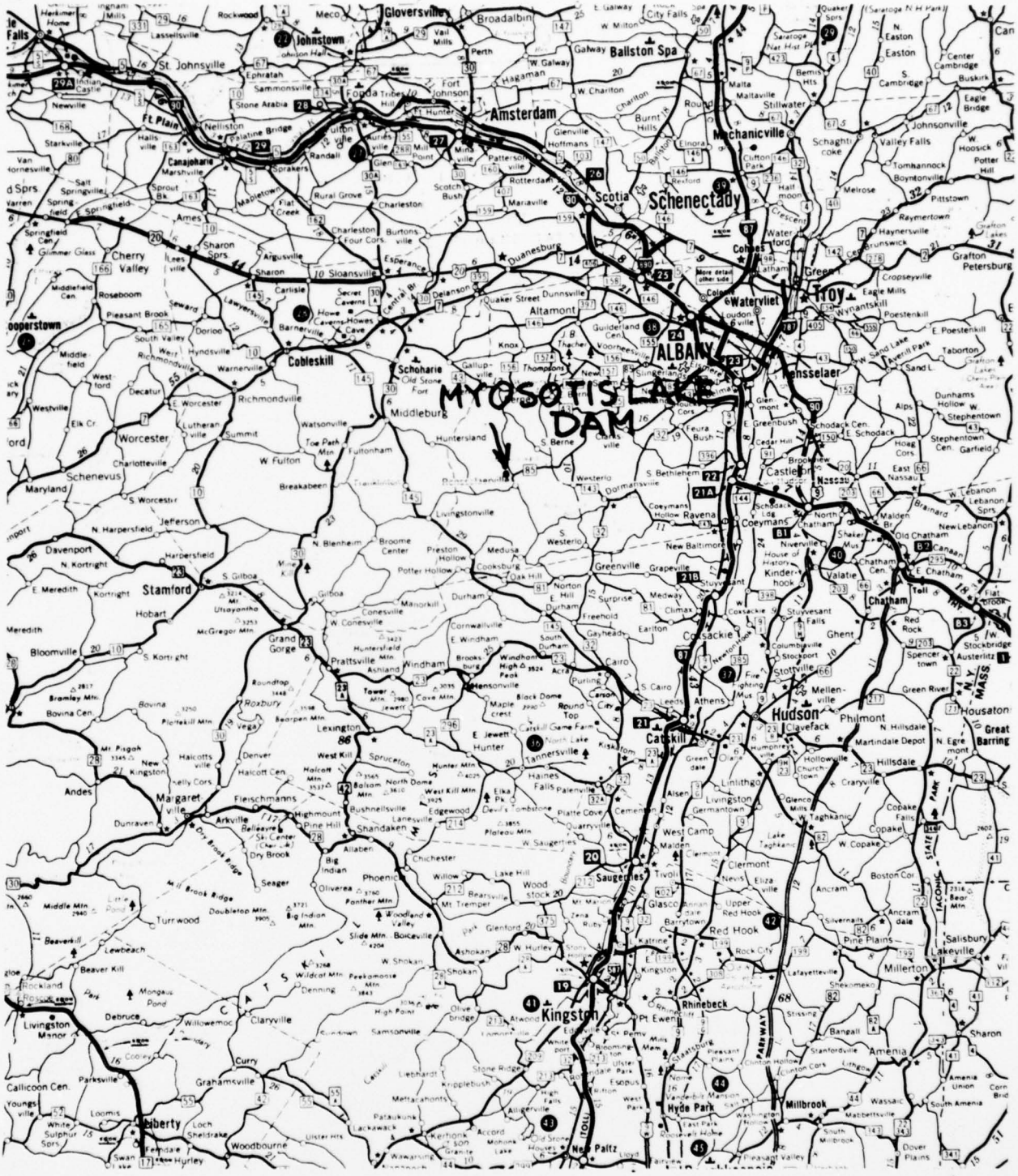
Additional investigations are required to determine the adequacy of the spillway, as recommended in Section 7.1a above.

7.2 REMEDIAL MEASURES

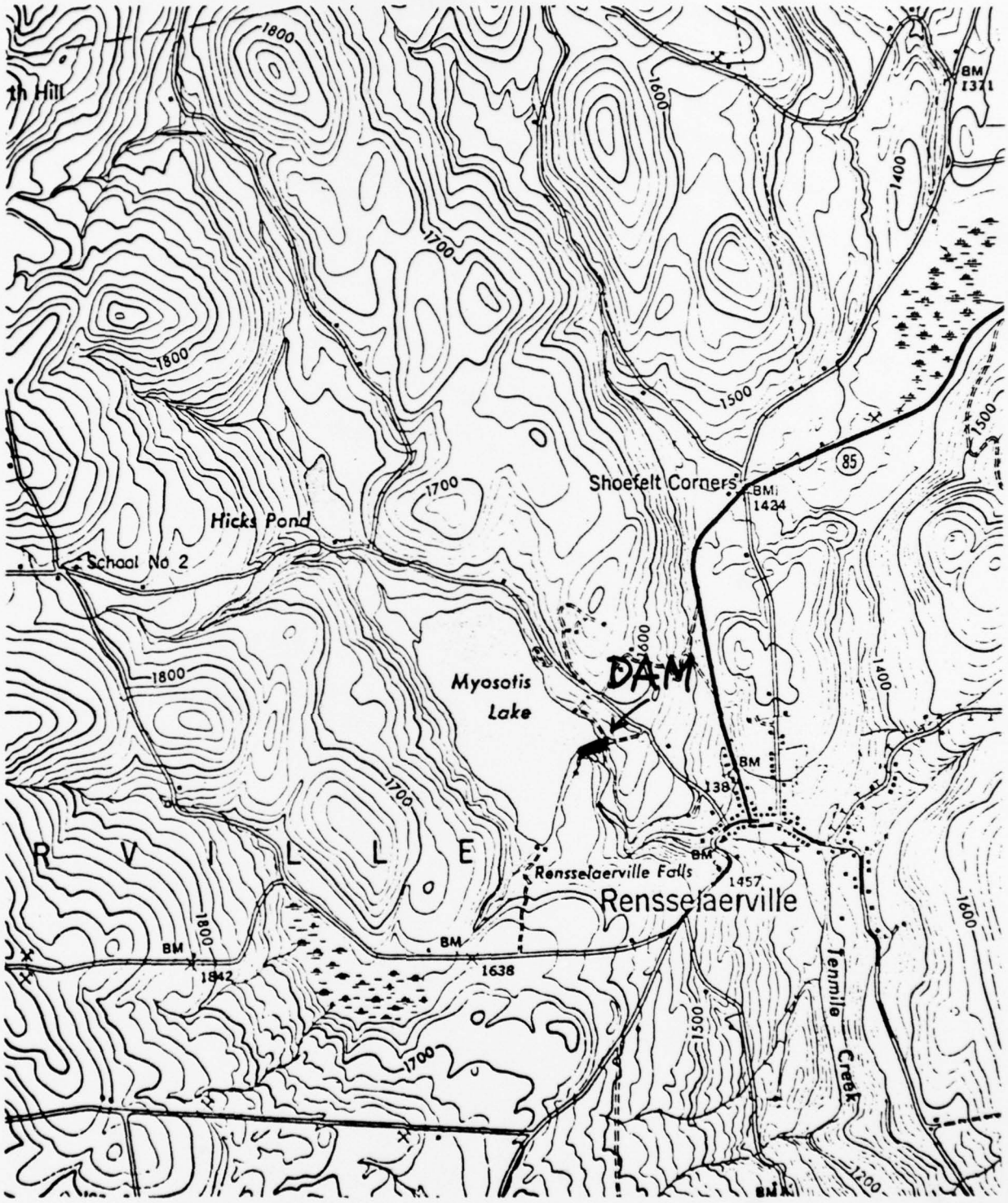
No remedial measures are required to assure the safety of the dam at the present time.

Certain measures are recommended as follow:

a. Remove heavy shrubs and saplings from all locations on the dam.
b. Repair the spillway slab.
c. Repair the left side entrance wall of the spillway.
d. Prepare operation and maintenance manual for the project.
e. Maintain the record of operation and maintenance.
f. Establish a program of periodic inspections of the project features.



VICINITY MAP
MYOSOTIS LAKE DAM



TOPOGRAPHIC MAP
MYOSOTIS LAKE DAM AND RESERVOIR

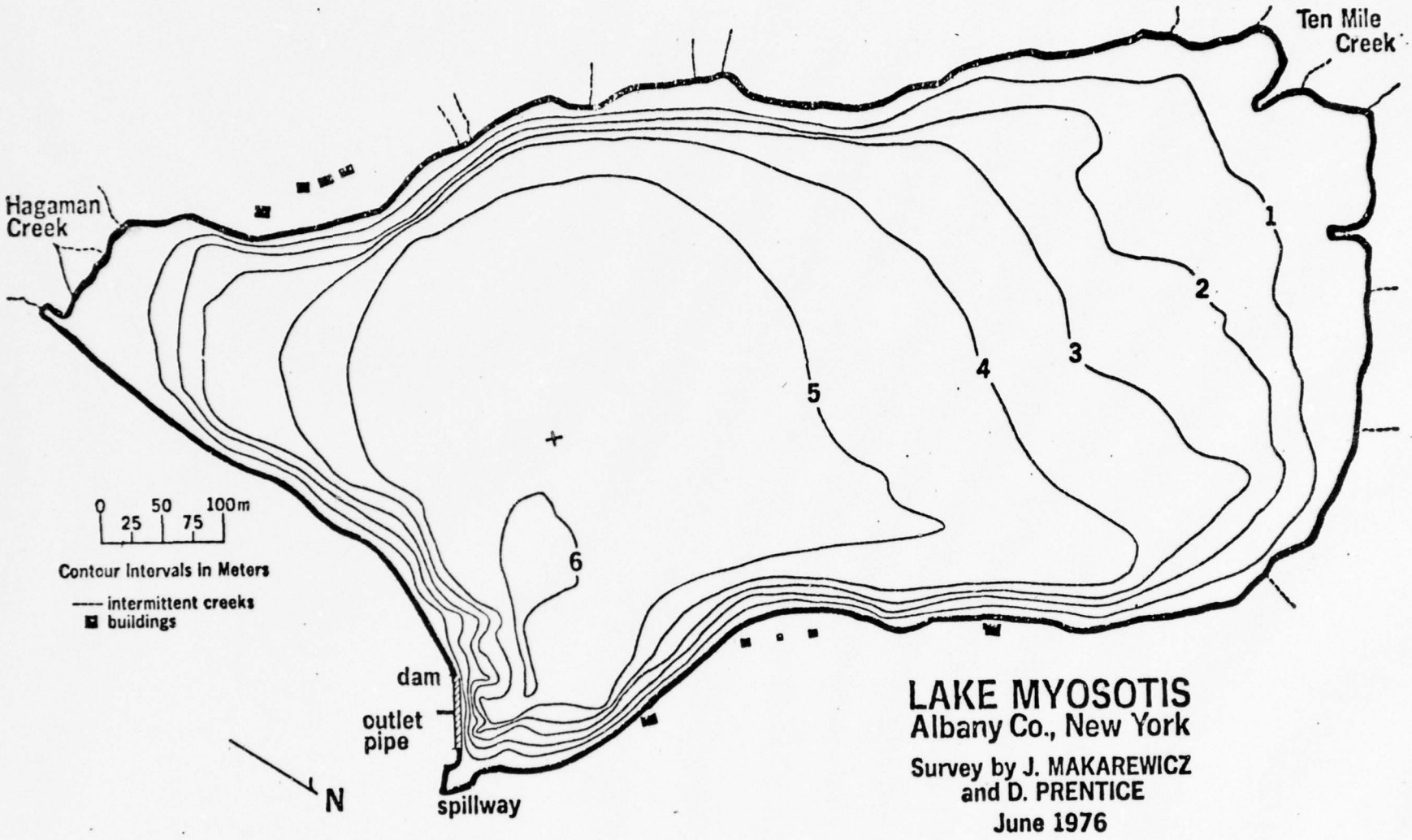
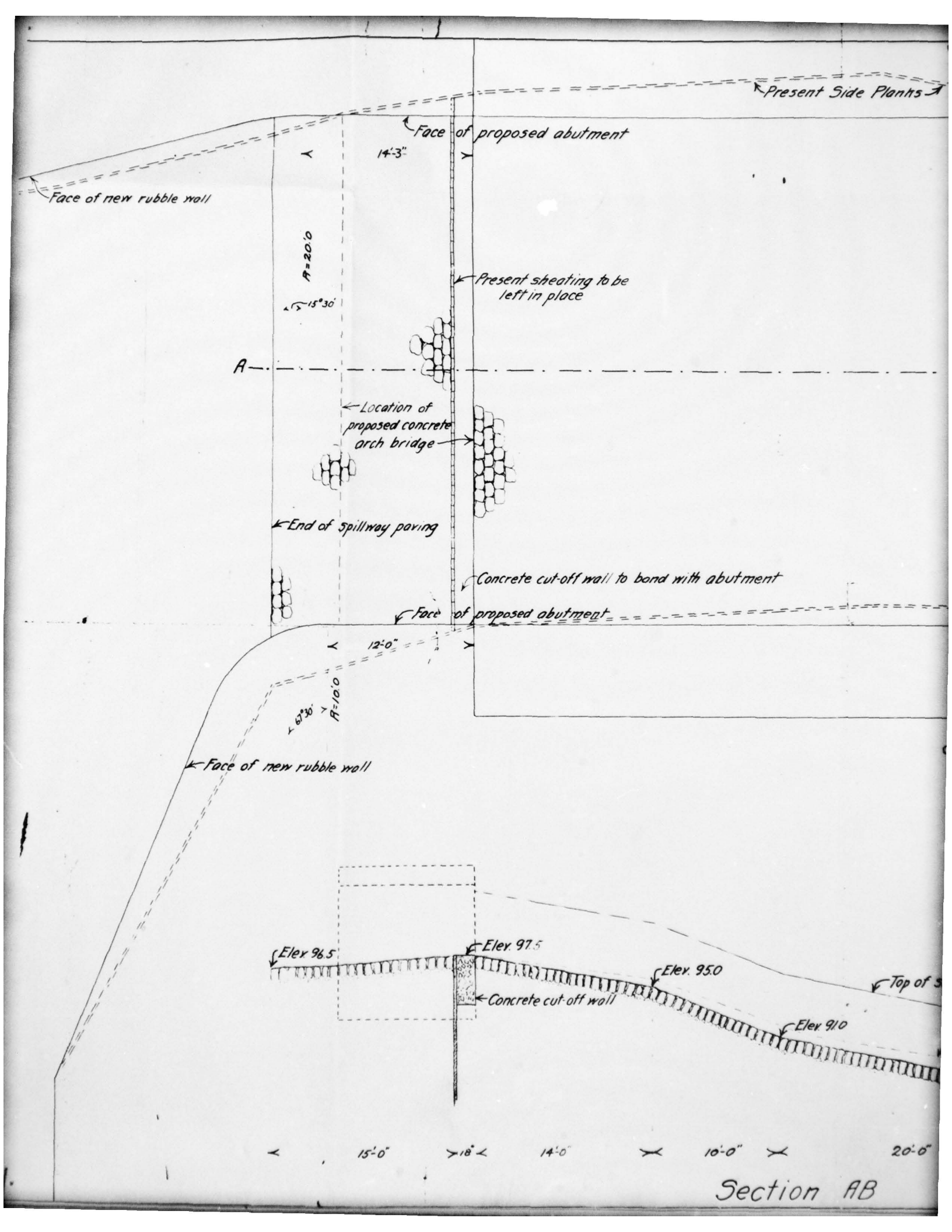
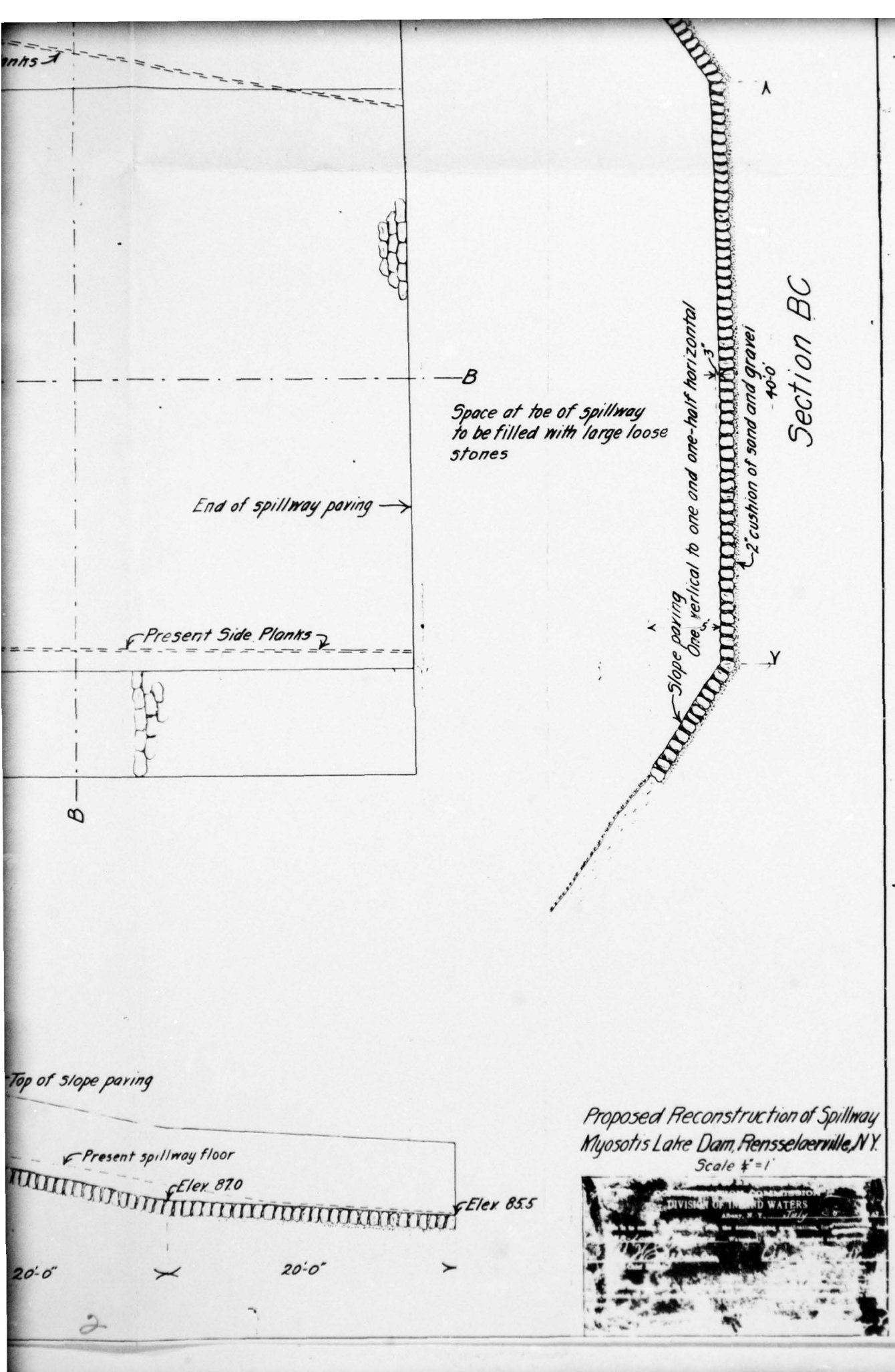


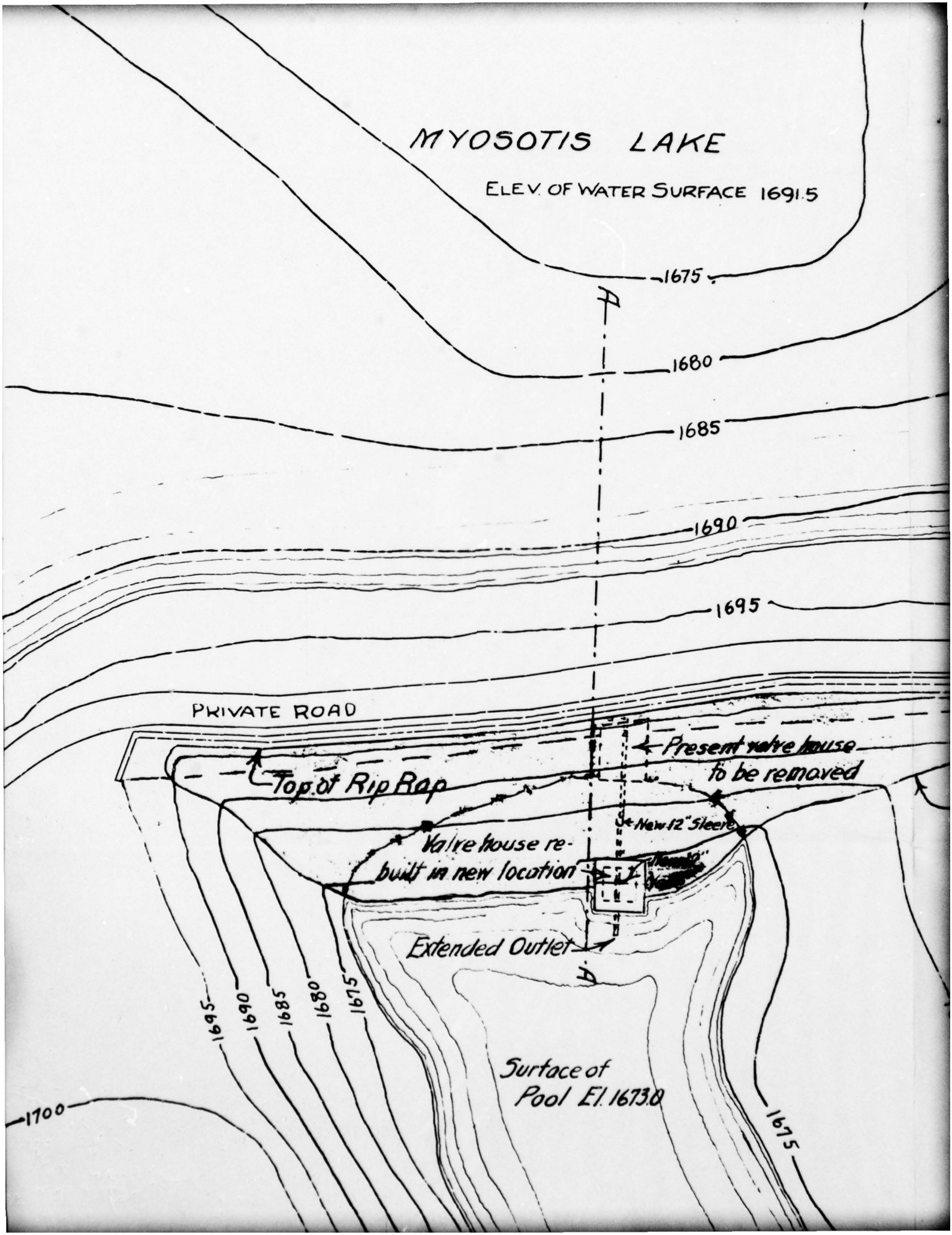
Fig. 1 Bathymetric map of Lake Myosotis, N.Y. Cross indicates seasonal sampling station.

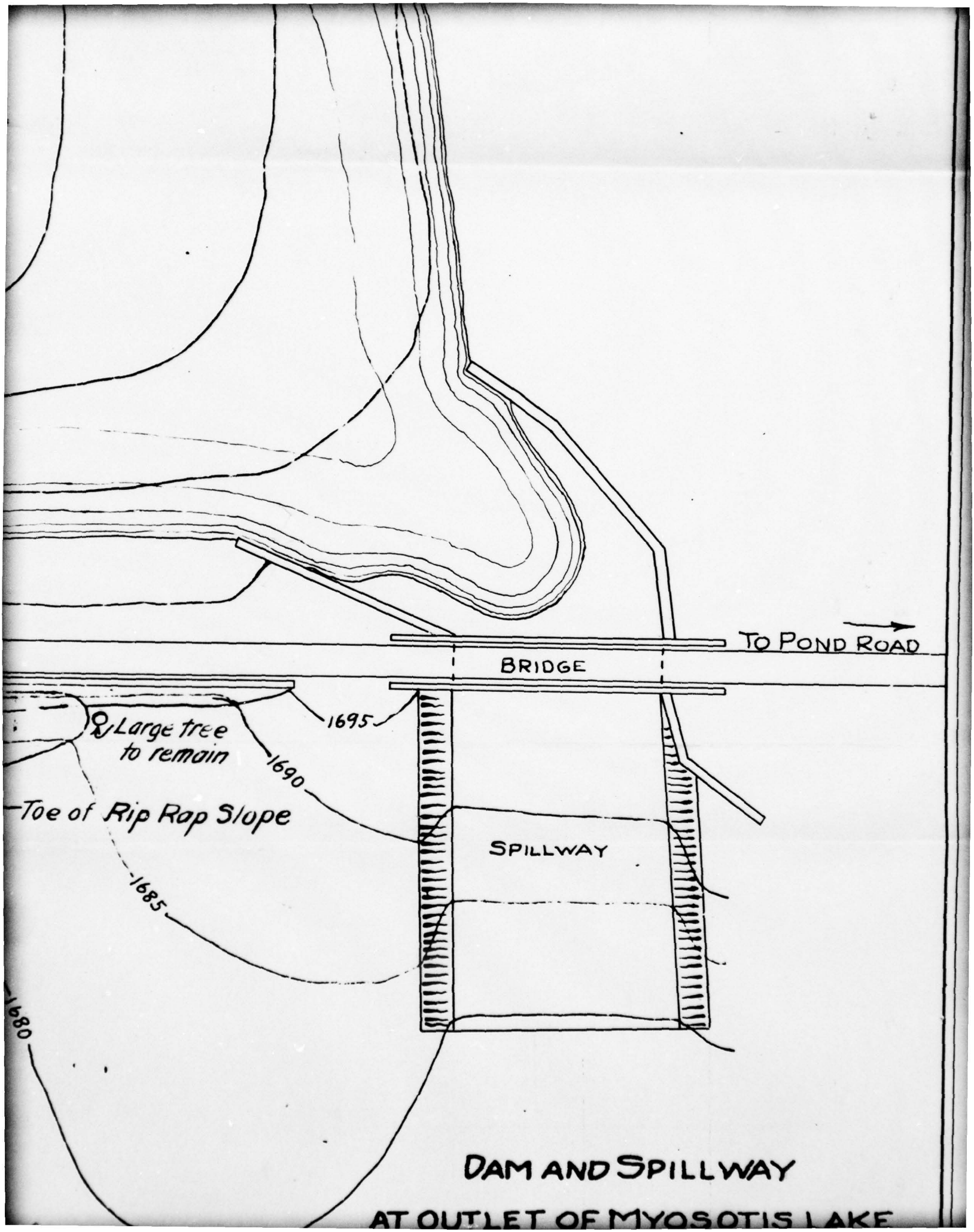

Present Side Planks
Face of proposed abutment
14'-3"
Face of new rubble wall
R=20'0
15°30'
Present sheeting to be left in place
A
Location of proposed concrete arch bridge
End of spillway paving
Concrete cut-off wall to bond with abutment
Face of proposed abutment
12'-0"
R=10'0
67°30'
Face of new rubble wall
Elev. 96.5
Elev. 97.5
Elev. 95.0
Concrete cut-off wall
Elev. 91.0
15'-0"
18"
14'-0"
10'-0"
20'-0"

Section AB



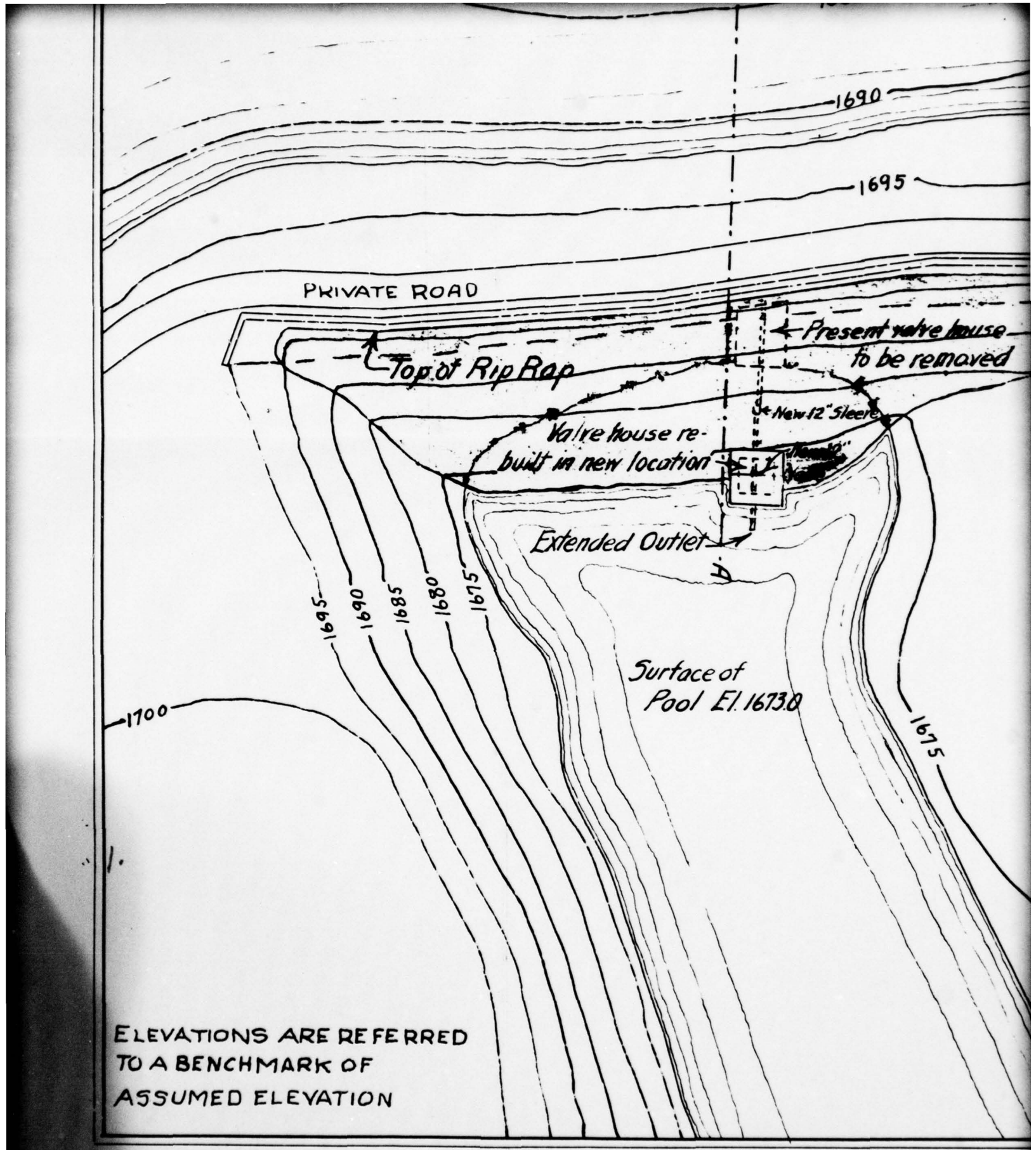
Proposed Reconstruction of Spillway
Myosotis Lake Dam, Rensselaerville, N.Y.
Scale ½" = 1'

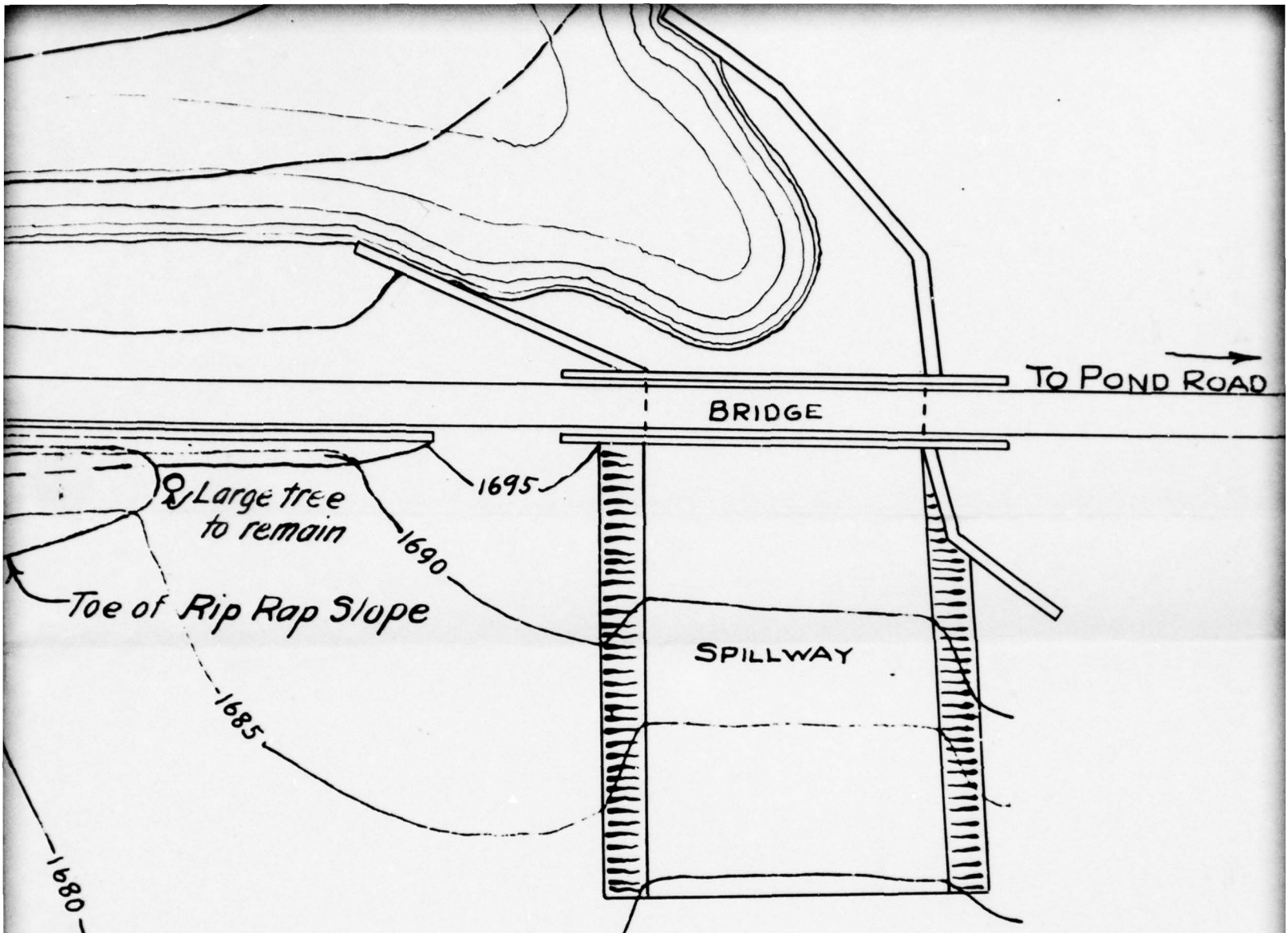

MYOSOTIS LAKE
ELEV. OF WATER SURFACE 1691.5
1675
1680
1685
1690
1695
PRIVATE ROAD
Top of Rip Rap
Present valve house to be removed
New 12" Sleeve
Valve house re-built in new location
Extended Outlet
A
A
1695
1690
1685
1680
1675
Surface of Pool El. 1673.0
1700
1675



DAM AND SPILLWAY

AT OUTLET OF MYOSOTIS LAKE


1690
1695
PRIVATE ROAD
Top of Rip Rap
Present valve house to be removed
New 12" Sleeve
Valve house re-built in new location
New 10"
Extended Outlet
A
1695
1690
1685
1680
1675
Surface of Pool El. 1673.0
1700
1675
1.
ELEVATIONS ARE REFERRED TO A BENCHMARK OF ASSUMED ELEVATION



2.

DAM AND SPILLWAY
AT OUTLET OF MYOSOTIS LAKE
RENSSELAERVILLE, N.Y.

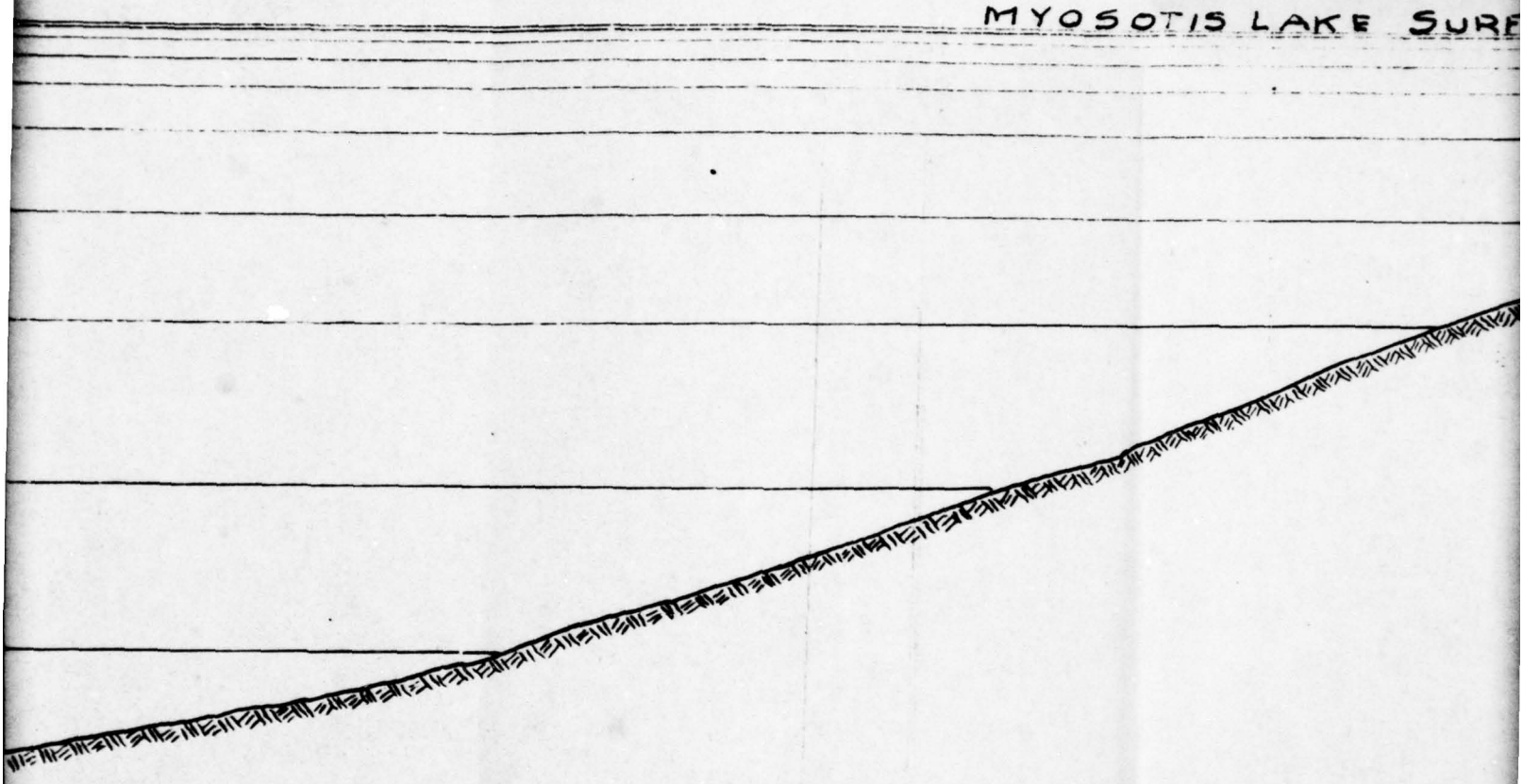
PROPOSED RIP RAP FOR INCREASED STABILITY

PREPARED FOR
THE EDMUND NILES HUYCK PRESERVE, INC.

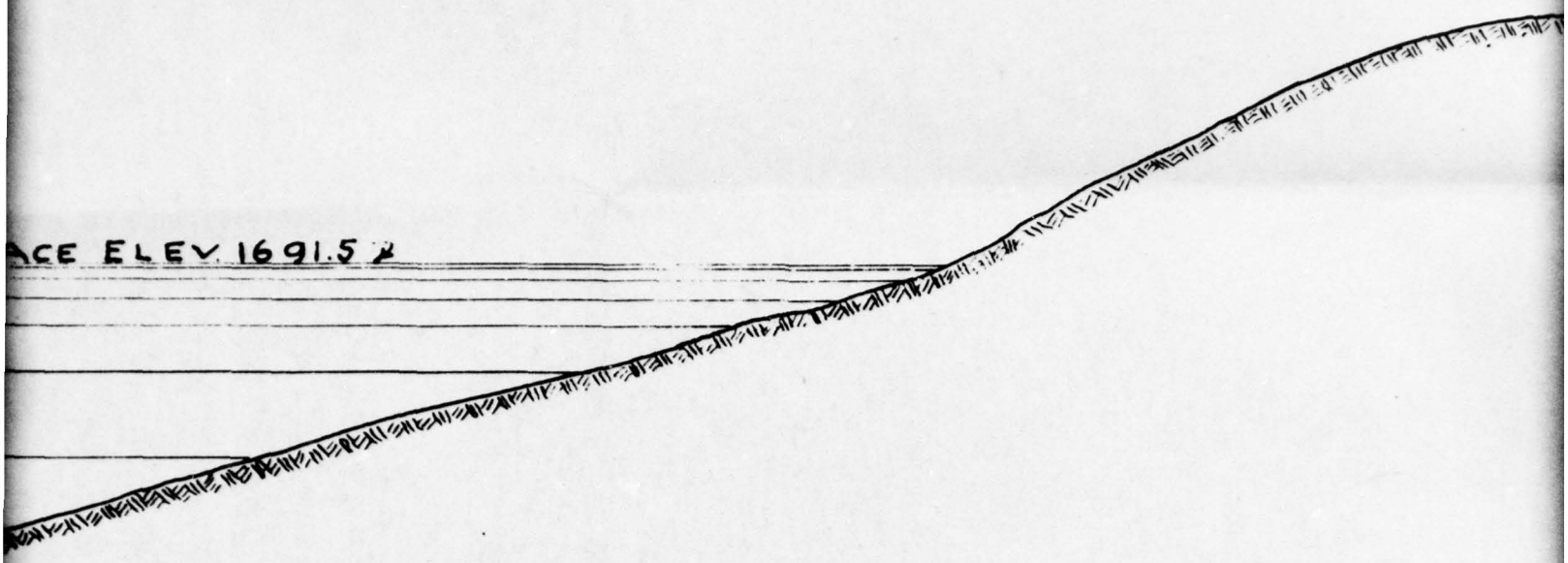
FRANK R. LANAGAN, CIVIL ENGINEER

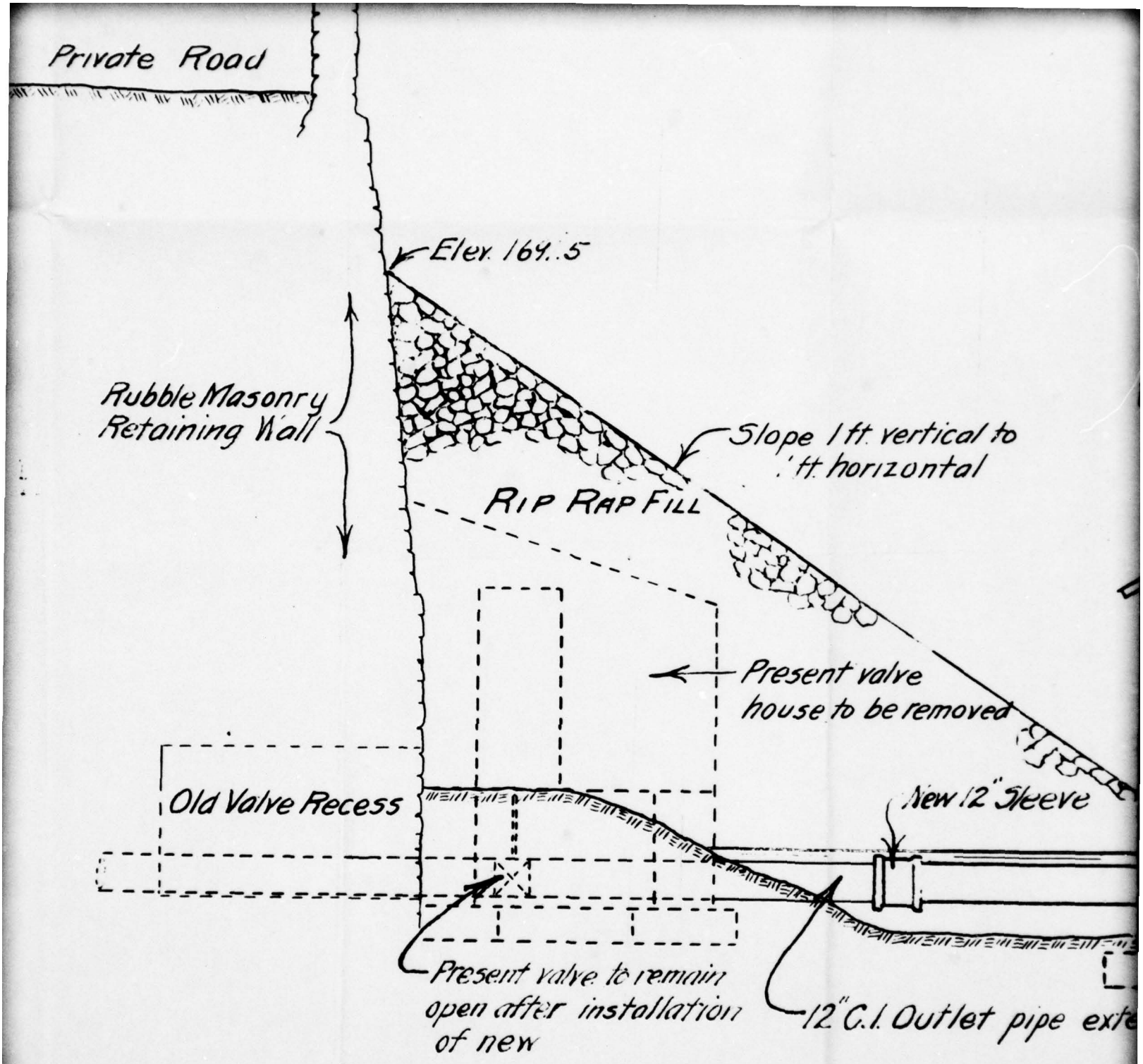
SCALE 1 IN = 20 FT

AUGUST 1933



ELEVATIONS ARE REFERRED
TO A BENCH MARK OF
ASSUMED ELEVATION.


ACE ELEV 1691.5



CTION "A-A" OF DAM AT MYOSOTIS LAKE, RENSSELA

PROPOSED RIP RAP FOR INCREASED STABI

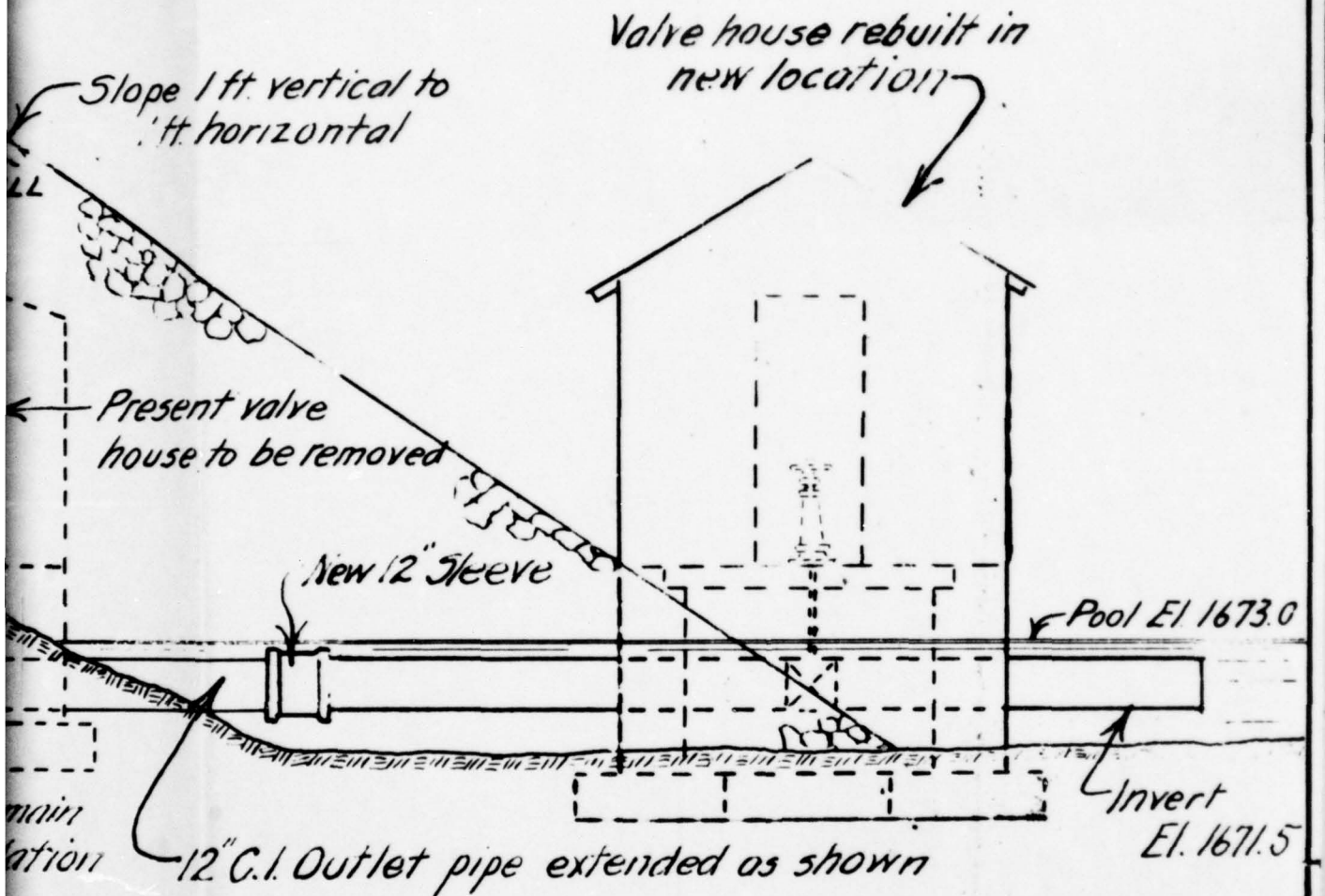
PREPARED FOR THE EDMUND NILES HUYCK PRESERVE, INC.

FRANK R. LANAGAN, CIVIL ENGINEER

SCALE 1" = 4 FT.

AUGU

3.



TIS LAKE, RENSSELAERVILLE, N.Y.

R INCREASED STABILITY

ILES HUYCK PRESERVE, INC.

GAN, CIVIL ENGINEER

AUGUST, 1933.

PHOTOGRAPHS

APPENDIX A

DOWNSTREAM

UPSTREAM

CREST OF THE DAM

DAM, UPSTREAM SLOPE

DAM, DOWNSTREAM SLOPE AND GATEHOUSE

SPILLWAY ENTRANCE, LOOKING DOWNSTREAM

SPILLWAY EXIT, LOOKING UPSTREAM

ENGINEERING DATA CHECKLIST

APPENDIX B

CHECKLIST
ENGINEERING DATA
DESIGN, CONSTRUCTION, OPERATION
PHASE I

NAME OF DAM MYOSOTIS LAKE

ID # 670

ITEM	REMARKS
AS-BUILT DRAWINGS	None available. Drawings available include "Proposed Reconstruction of Spillway", 1913, and "Proposed Rip Rap for Increased Stability", 1933
REGIONAL VICINITY MAP	USGS
CONSTRUCTION HISTORY	Myosotis Lake was impounded about 1800.
TYPICAL SECTIONS OF DAM	Shown on the above drawings
OUTLETS-PLAN	None available
-DETAILS	None available
-CONSTRAINTS	None available
-DISCHARGE RATINGS	None available
RAINFALL/RESERVOIR RECORDS	None available.

ITEM	REMARKS
DESIGN REPORTS	None available
GEOLOGY REPORTS	None available
DESIGN COMPUTATIONS	None available
HYDROLOGY & HYDRAULICS	None available
DAM STABILITY	None available
SEEPAGE STUDIES	None available
MATERIALS INVESTIGATIONS	None available
BORING RECORDS	None available
LABORATORY	None available
FIELD	None available
POST-CONSTRUCTION SURVEYS OF DAM	Not available
BORROW SOURCES	No data available

ITEM	REMARKS
MONITORING SYSTEMS	Not available
MODIFICATIONS	In 1962 spillway was enlarged
HIGH POOL RECORDS	None available
POST CONSTRUCTION ENGINEERING STUDIES AND REPORTS	None available
	In 1934 stone was dumped on face of dam; discharge pipe was extended and a gatehouse was built; a new valve was installed
PRIOR ACCIDENTS OR FAILURE OF DAM	None reported
DESCRIPTION	
REPORTS	
MAINTENANCE	No formal program or schedule available
OPERATION	Little operation to provide water for N's users
RECORDS	None available

ITEM	REMARKS
SPILLWAY PLAN	See list of drawings
SECTIONS	
DETAILS	
OPERATING EQUIPMENT	No data available
PLANS & DETAILS	

VISUAL INSPECTION CHECKLIST

APPENDIX C

VISUAL INSPECTION CHECKLIST

1. Basic Data

a. General

Name of Dam Lake Myosotis Hazard Category Significant

County Albany ID# _____

Stream Name Ten-mile Creek Tributary of Catskill Cree and the Hudson River

Location Albany County Nearest Town (P.O.) Rensselaerville

Longitude 74°08'45" Latitude 42°31'0" Other Directions _____

0.5mi NNW of Rensselaerville

Date of Insp 30 Aug. 1978 Weather Rainy Temperature 70-75°

b. Inspection Personnel Anthony Dolcimascolo, Geotechnical Eng, Anatol Lange, Structural Eng; both with TAMS

c. Persons Contacted Robert C. Dalgleish, Ph.D, Executive Director of the Edmund Niles Huyck Preserve, Inc.

d. History: Date Constructed Lake Myosotis impounded ca. 1800

Present Owner The Edmund Niles Huyck Preserve, Inc.

Designed by Not known

Constructed by Not known

Recent History Spillway enlarged in 1962

2. Technical Data

Type of Dam Stone Drainage Area _____ Acres

Height 22 ft Length 240 ft

Upstream Slope 1(V) : 2(H) Downstream Slope Vertical(7.1 ft), then 1(V):1(H)

Crest Width 11.5 ft Freeboard at Spillway Crest 8.5 ft

Low Level Control: (Type and Size) 12 inch gate valve

Valve Condition Operable; Minor leak at flanges

~~Emergency~~ Spillway Type (Material) Ungated, Masonry Width 36.7 ft

Only one service spillway, no emerg. spillway

Side Slopes Vertical

Height (Crest to Top) 8.5 ft

Exit Slope 1(V) : 4.6(H)

Exit Length 78.2 ft

Ponded Surface Area 98.3 Acres

Capacity (Normal Level) 1124 Acre Feet

Capacity Emergency Spillway Level — Acre Feet

3. Embankment

240 ft

a. Crest 11.5 ft wide, incl. 1.3 ft parapet; El. 699.5

(1) Vertical Alignment Uniform

(2) Horizontal Alignment 116 ft straight; 118 ft slightly curved downstream;

(3) Longitudinal Surface Cracks None visible

(4) Transverse Surface Cracks None visible

(5) General Condition of Surface Grassed surface in good conditions

(6) Miscellaneous Earth layer on top of rock; thickness unknown

b. Upstream Slope 1(V) : 2 (H)

(1) Undesirable Growth or Debris Grown trees, bushes and saplings

(2) Sloughing, Subsidence, or Depressions None observed

(3) Slope Protection Dumped stones averaging 18 inches (9 inches min to 2 ft max.)

(a) Condition of Riprap Good

(b) Durability of Individual Stones Good

(c) Adequacy of Slope Protection Against Waves and Runoff Apparently good, no damage visible

(d) Gradation of Slope Protection - Localized Areas of Fine Material None

(4) Surface Cracks

c. Downstream Slope

(1) Undesirable Growth or Debris Central part - clear of vegetation; left and right parts covered by saplings and bushes.

(2) Sloughing, Subsidence, or Depressions; Abnormal Bulges or Non-Uniformity

None observed

(3) Surface Cracks on Face of Slope None observed

(4) Surface Cracks or Evidence of Heaving at Embankment Toe

None observed

(5) Wet of Saturated Areas or Other Evidence of Seepage on Face of Slope; Evidence of "Piping" or "Boils"

Not detectable in rainy weather. However, according to Dr. Dagleish, who provides frequent observations, no seepage has been evident on downstream face of the dam

(6) Fill Contact with Outlet Structure

Good

(7) Condition of Grass Slope Protection Not applicable

d. Abutments

(1) Erosion of Contact of Embankment with Abutment from Surface Water Runoff, Upstream or Downstream

None visible

(2) Springs or Indications of Seepage Along Contact of Embankment with the Abutments

None observed by Dr. Dalgleish

(3) Springs or Indications of Seepage in Areas a Short Distance Downstream of Embankment - Abutment Tie-in

None observed by Dr. Dalgleish

e. Area Downstream of Embankment, Including Tailrace Channel

This area includes Ten-mile Creek valley

(1) Localized Subsidence, Depressions, Sinkholes, Etc.

None visible

(2) Evidence of "Piping" or "Boils"

None observed by Dr. Dalgleish

(3) Unusual Presence of Lush Growth, such as Swamp Grass, etc.

None

(4) Unusual Muddy Water in Downstream Channel

None

(5) Sloughing or Erosion

None visible

(6) Surface Cracks or Evidence of Heaving Beyond Embankment, Toe

None visible

(7) Stability of Tailrace Channel Sideslopes

Natural slopes of the creek with trees and brush, no erosion visible

(8) Condition of Tailrace Channel Riprap

(9) Adequacy of Slope Protection Against Waves, Currents and Surface Runoff

(10) Miscellaneous

f. Drainage System Unknown

(1) Condition of Relief Wells, Drains and Appurtenances

No relief wells or drains

(2) Unusual Increase or Decrease in Discharge from Relief Wells

Not applicable

4. Instrumentation

(1) Monumentation/Surveys None

(2) Observation Wells None

(3) Weirs None

(4) Piezometers None

(Other)

5. Reservoir

Inspected in the field and from bathymetric map, surveyed by J. Makarewicz and D. Prentice in 1976

a. Slopes

1(V) : 10 (H) at the Dam and lateral sides;
1(V) : 100 (H) at the U/S part of the reservoir

b. Sedimentation

6. Spillways

Only one spillway, which is service spillway

a. Principal Spillway: Inlet Condition

Pipe Condition

General Remarks (include information such as recently repaired, potential for debris accumulation, special items of note, etc.)

Spillway was enlarged in 1962, which allowed ice to pass through unobstructed

b. Emergency Spillway: General Condition

Tree Growth

Erosion

Other Observations

7. Structural (if required) See Attached Appendix

See attached Appendix for structural comments

8. Downstream Channel

D/s channel is Ten-mile Creek valley

a. Condition (obstructions, debris, etc.)

No major debris which would be considered unusual

b. Slopes

c. Approximate No. Homes and Population

Unoccupied saw mill building (historical), Highway bridge on N.Y. Rt 85, 1 residential house

d. General

Amatol Lange

TEAM CAPTAIN

STRUCTURAL INSPECTION CHECKLIST

PHASE I DAM INSPECTION

1. Concrete Surfaces Masonry of vertical exposed D/s face of dam is in good condition. Masonry spillway slab was provided with re-steel bars and gunited facing, which has been washed away in several places.

2. Structural Cracking None visible

3. Movement - Horizontal and Vertical Alignment None visible

4. Junctions with Abutments or Embankments

5. Drains - Foundation, Joint, Face

6. Water Passages, Conduits, Sluices

7. Seepage or Leakage

8. Monolith Joints - Construction Joints

9. Foundation

10. Abutments Masonry 5-ft high approach wall on the left side of the spillway has cracks, slight dislocation under soil pressure

11. Control Gates

12. Approach and Outlet Channels

13. Stilling Basin

14. Intake Structure

15. Settlement No differential settlement visible at structures.

16. Stability

a. Overturning Calculations not required for Phase I

b. Sliding " "

c. Seismic

17. Instrumentation No instrumentation.

a. Alignment

b. Uplift

c. Seismic

18. Miscellaneous

HYDROLOGIC DATA AND COMPUTATIONS

APPENDIX D

TAMS

Job No. 1487-16 Sheet 1 of

Project MYOSOTIS LAKE DAM Date 9/20/78

Subject DRAINAGE AREAS By WP

1" = 2000' Ch'k. by

$\frac{0.101}{.143480\ mi^2} = \frac{x}{mi^2}$

TOTAL DRAINAGE BASIN AREA

9.23
4.61
4.62

4.615 = 6.57 mi^2

LARGE DRAINAGE AREA

6.80
3.39
3.41

3.40 = 4.82 mi^2

$\frac{2000}{5280} = 0.379$

SMALL DRAINAGE AREA

2.27
1.13
1.14

1.135 = 1.60 mi^2

(CONTOUR 1521') *

MYSOTIS LAKE AREA

$\frac{0.99}{.143480} = \frac{x}{mi^2}$

2.05
1.02
1.03

1.025 = 0.15 mi^2

LAKE LENGTH OF DAM

1.4" = 0.531 mi.

SMALL AREA STREAM LENGTH

7.05" = 2.672 mi

1540' CONTOUR AREA AROUND LAKE

2.73
1.37
1.36

1.365 = 0.20 mi^2

LARGE AREA STREAM LENGTH

10.5" = 3.980 mi

ΔH BETWEEN LAKE @ HIGH PTS.

LAKE = 1521'

LARGE AREA 2160' ΔH = 639'

SMALL AREA 2146' ΔH = 625'

* Based on USGS Datum, which is 170 ft below an arbitrary Datum Plane, used in the survey prepared by Frank R. Lanagan, and revised July, 1940.

TAMS

Job No. 1487-16 Sheet 2 of _____

Project INSPECTION MYOSOTIS LAKE Date Oct 6, 78

Subject Unit hydrograph computations (Snyder) By D.L.C

Ch'k. by _____

(1.) Assume $C_t = 2$.

$640 C_p = 400$.

$L_{CA} = 1.33$ miles

$L = 3.98$ miles

$A = 4.82$ sq. mi.

$t_p = C_t (L L_{CA})^{0.3} = 3.3$ hours

$t_R = t_p / 5.5 = 0.6$ hours

$q_p = 640 C_p / t_p = 121.2$ csm

$Q = 121.2 \times 4.82 = 584$ cfs.

(2.) $L_{CA} = 1.14$ miles

$L = 2.67$ miles

$A = 1.6$ sq. mi.

$t_p = C_t (L L_{CA})^{0.3} = 2.8$ hours

$t_R = t_p / 5.5 = 0.5$ hours

$q_p = 640 C_p / t_p = 142.9$ csm.

$Q = 142.9 \times 1.6 = 229$ cfs.

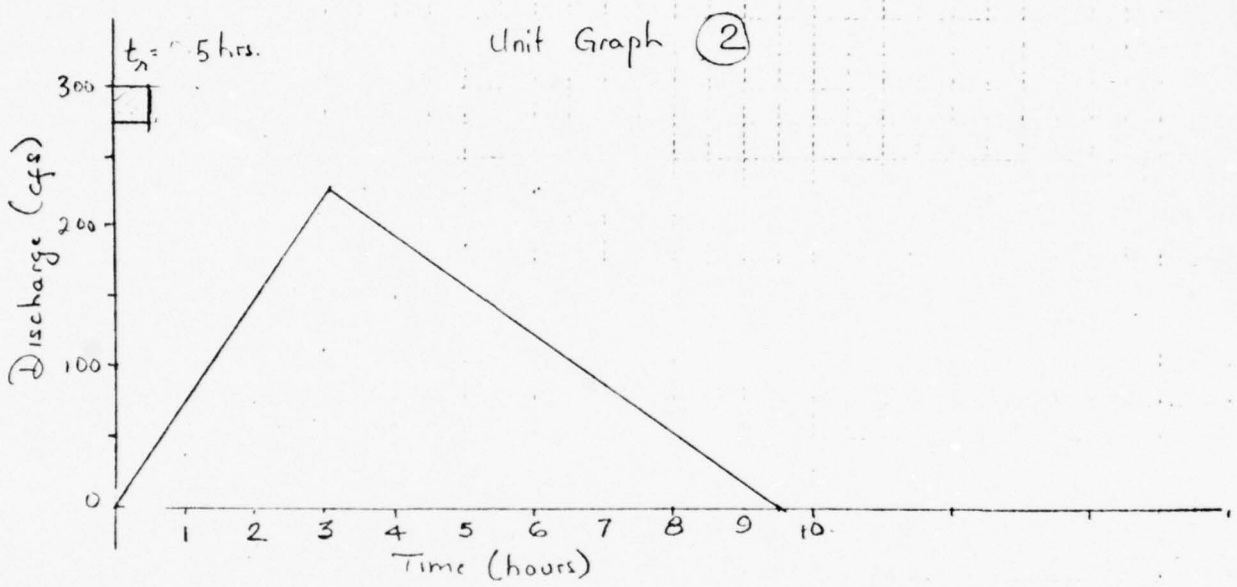
TAMS

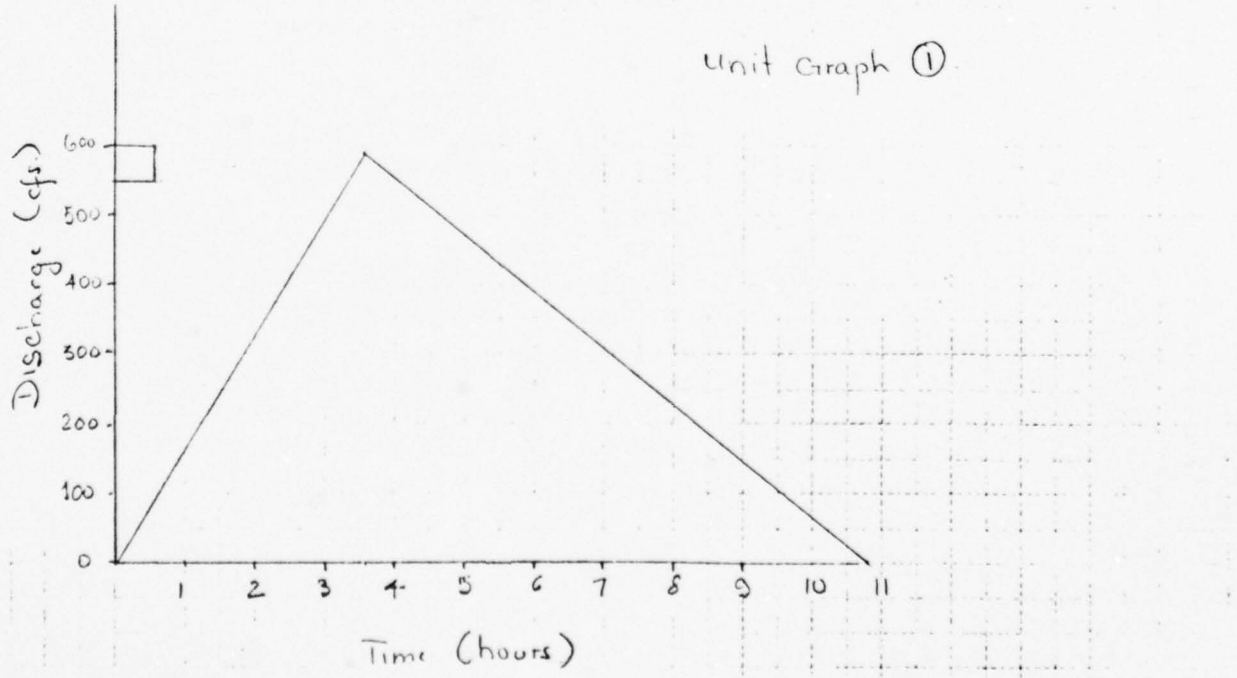
Job No. 1487-16 Sheet 3 of _____

Project Myosotis Lake Date Oct 6, 78

Subject _____ By _____

_____ Ch'k. by _____





TAMS

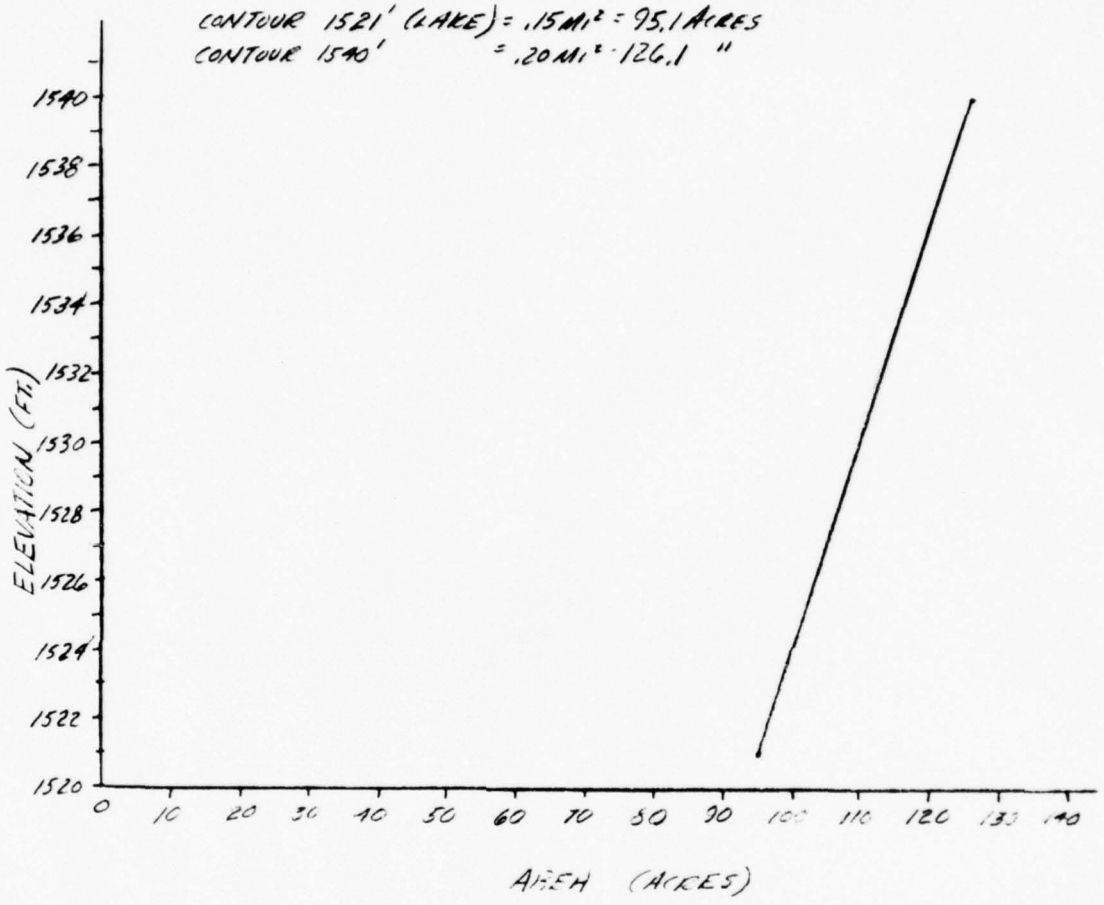
Job No. 1487-16 Sheet 4 of _____

Project MYOSOTIS LAKE Date 9/21/79

Subject ELEVATION VS. SURFACE AREA By GR

640 ACRES / MI² Ch'k. by _____

CONTOUR 1521' (LAKE) = .15 MI² = 95.1 ACRES
CONTOUR 1540' = .20 MI² = 126.1 "



TAMS

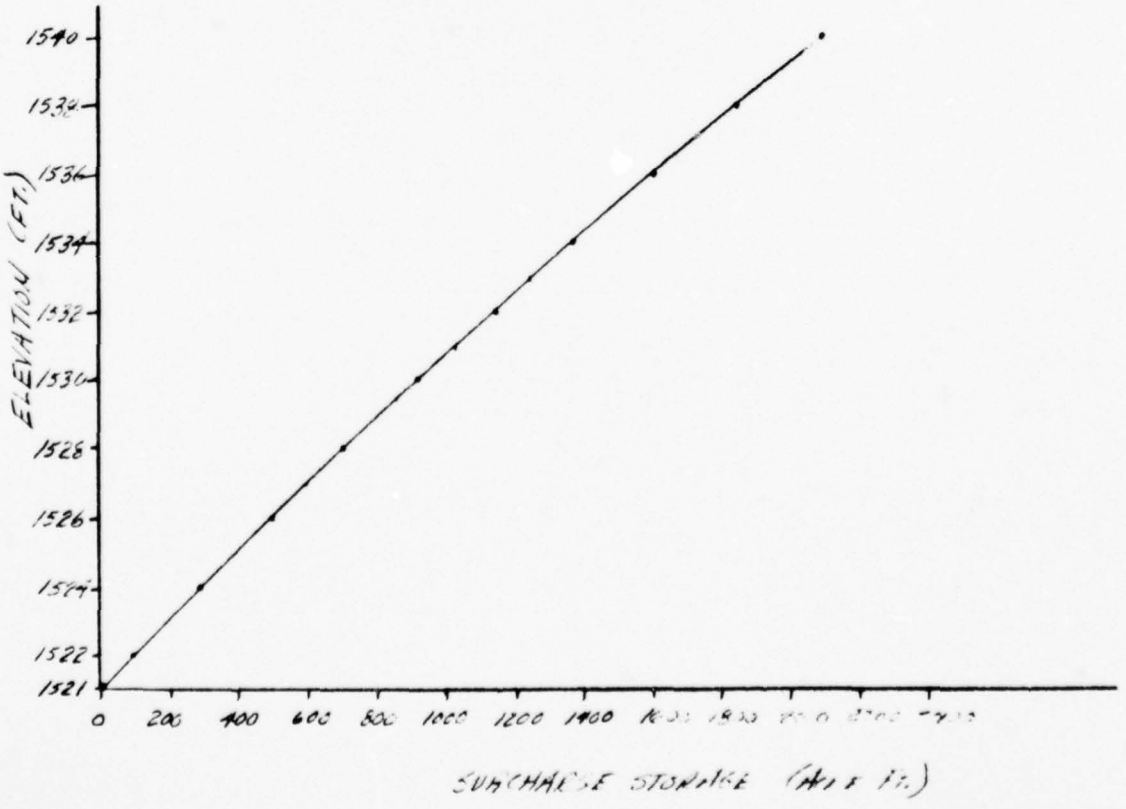
Job No. 1487-16 Sheet 5 of _____

Project MYOSOTIS LAKE Date 2/21/78

Subject ELEVATION VS. SURCHARGE STORAGE By WR

Ch'k. by _____

(FT.) ELEVATION	(ACRES) AREA	(ACRES) MEAN AREA	(ACRE-FT.) VOL	(ACRE FT.) TOTAL VOL
1521	95.1			
		95.95	95.95	
1522	96.8			95.95
		98.40	196.80	
1524	100.0			292.75
		101.60	203.20	
1526	103.2			495.95
		104.85	209.70	
1528	106.5			705.65
		108.25	216.50	
1530	110.0			922.15
		111.55	223.10	
1532	113.1			1145.25
		114.75	229.50	
1534	116.4			1374.75
		117.95	235.90	
1536	119.5			1610.65
		121.15	242.30	
1538	122.8			1852.95
		124.45	248.90	
1540	126.1			2101.85



TAMS

Job No. 1487-16 Sheet 6 of _____

Project INSPECTION MYOSOTIS LAKE Date Sep 20, 78

Subject _____ By DLA

_____ Ch'k. by _____

Length of dam 271 feet

ELEVATION	Hspillway	HDAM	Q_S	Q_D	Q_{TOTAL}	Surcharge Storage
1691	0		0		0	0
1692	1		113.3		113	96
1693	2		320.5		321	198
1694	3		588.8		589	298
1695	4		906.5		907	397
1696	5		1267.		1267	496
1697	6		1665.3		1665	599
1698	7		2098.6		2099	705
1699.5	8.5		2808.	0	2808	850
1700	9.0	.5	3159.4	296	3455	922
1701	10.	1.5	3582.2	1537	5120	1050
1702	11	2.5	4134.	3307	7441	1145
1703	12	3.5	4710.3	5479	10190	1250

TAMS

Job No. 1487-16 Sheet 7 of _____

Project MYOSOTIS LAKE Safety INSPECTION Date Sep 20, 78

Subject _____ By WP

_____ Ch'k. by _____

SOIL TYPE - GLACIAL TILL - GROUP C

SOIL COVER 75% FOREST CN = 70
25% FARM CN = 85

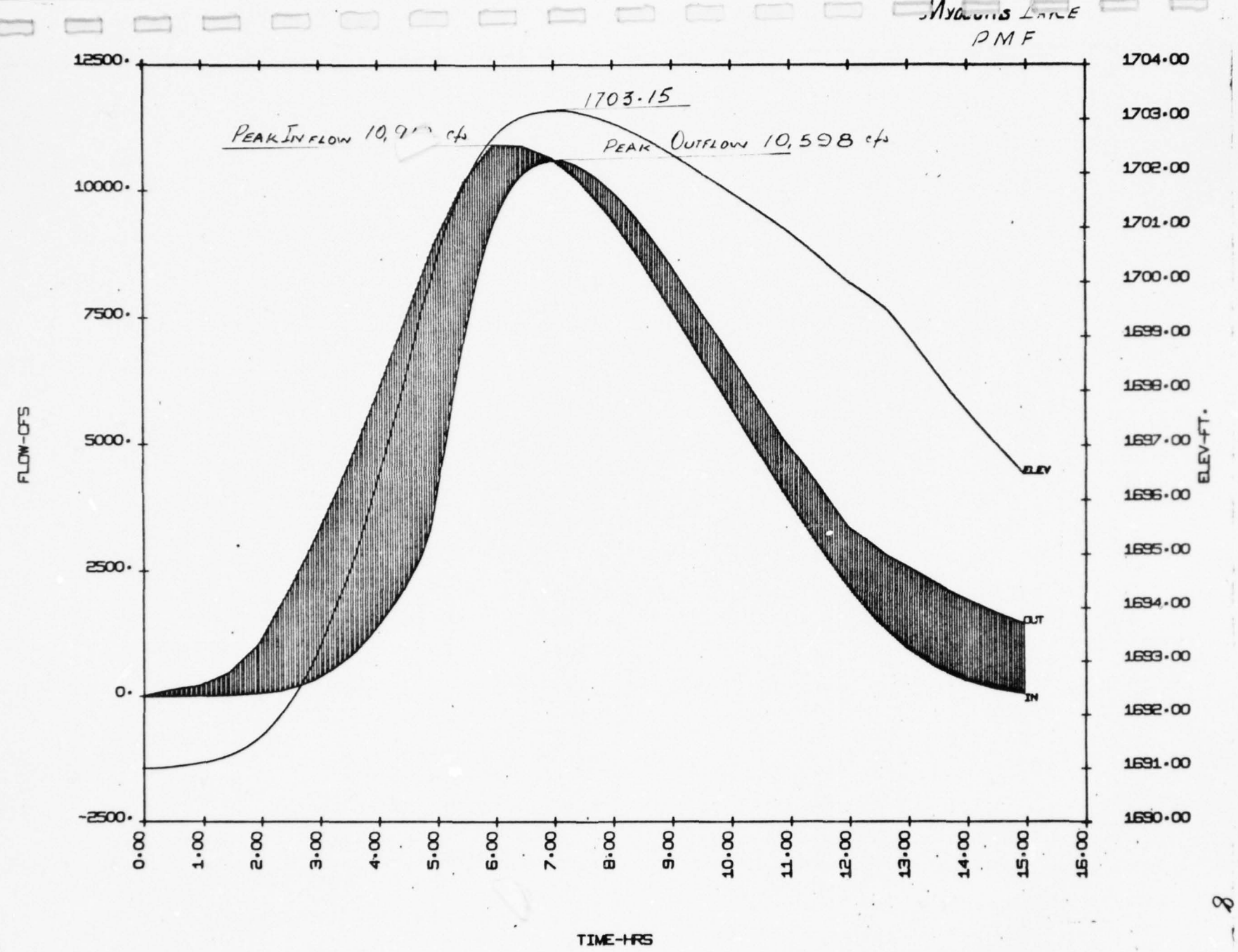
MEAN CN = 74 AMC II

FOR AMC III CN = 91

$S = \frac{1000}{91} - 10 = 1.11$

$Q = \frac{(P - .25)^2}{P + .85}$ $C_1 = 0.22$

$C_2 = 0.89$


MYRTLE LAKE
PMF
1703.15
PEAK INFLOW 10,9[illegible] cfs
PEAK OUTFLOW 10,598 cfs
ELEV
OUT
IN
FLOW-CFS
ELEV-FT.
TIME-HRS
12500.
10000.
7500.
5000.
2500.
0.
-2500.
1704.00
1703.00
1702.00
1701.00
1700.00
1699.00
1698.00
1697.00
1696.00
1695.00
1694.00
1693.00
1692.00
1691.00
1690.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00

MYOSOTIS LAKE DAM
JOB 1487-16
DAM INSPECTION
FULL PMF

INPUT PARAMETERS

STARTING ELEV (FT.)	TIME INTERVAL (HOURS)	STARTING TIME (HOURS)	ENDING TIME (HOURS)	PRINT INTERVAL	GATE OPTION	PLOT OPTION	STORAGE COEF.	OUTFLOW COEF.	INFLOW COEF.	TIME COEF.	BREAK TIME
1691.00	0.04	0.00	15.00	1	NO	YES	1.000	1.000	1.000	1.000	0.000

RESERVOIR ELEV. (FT.)	RESERVOIR STORAGE (ACFT)	RESERVOIR OUTFLOW (CFS)
1691.00	0.0000	0.00
1692.00	96.0000	113.00
1693.00	198.0000	321.00
1694.00	292.0000	539.00
1695.00	399.0000	907.00
1696.00	496.0000	1267.00
1697.00	599.0001	1665.00
1698.00	705.0001	2099.00
1699.50	850.0001	2808.00
1700.00	922.0001	3355.00
1701.00	1030.0002	5120.00
1702.00	1145.0002	7621.00
1703.00	1250.0002	10190.00

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
0.00	0.00		0.0000	1691.00
0.04	11.09	0.02	0.0192	1691.00
0.08	22.19	0.09	0.0768	1691.00
0.13	33.29	0.20	0.1725	1691.00
0.17	44.38	0.36	0.3064	1691.00
0.21	55.48	0.56	0.4781	1691.00
0.25	66.58	0.80	0.6876	1691.00
0.29	77.68	1.10	0.9347	1691.00
0.34	88.77	1.43	1.2192	1691.01
0.38	99.87	1.81	1.5409	1691.01
0.42	110.97	2.23	1.8999	1691.02
0.46	122.07	2.70	2.2957	1691.02
0.50	132.85	3.21	2.7279	1691.02
0.55	140.70	3.75	3.1906	1691.03
0.59	148.55	4.33	3.6786	1691.03
0.63	156.40	4.93	4.1918	1691.04
0.67	164.24	5.56	4.7300	1691.04
0.71	172.09	6.23	5.2933	1691.05
0.76	179.94	6.92	5.8814	1691.06
0.80	187.78	7.64	6.4944	1691.06
0.84	195.63	8.39	7.1320	1691.07
0.88	203.48	9.17	7.7941	1691.08
0.92	211.32	9.98	8.4808	1691.08
0.97	219.17	10.81	9.1919	1691.09
1.01	229.70	11.69	9.9318	1691.10
1.05	251.63	12.62	10.7250	1691.11
1.09	273.57	13.64	11.5910	1691.12
1.13	295.50	14.74	12.5293	1691.13
1.18	317.44	15.93	13.5399	1691.14
1.22	339.37	17.21	14.6223	1691.15
1.26	361.30	18.56	15.7762	1691.16
1.30	383.24	20.01	17.0015	1691.17
1.34	405.17	21.53	18.2977	1691.19
1.39	427.10	23.14	19.6646	1691.20
1.43	449.04	24.83	21.1019	1691.21
1.47	470.97	26.61	22.6093	1691.23
1.51	500.01	28.48	24.1986	1691.25
1.55	546.81	30.50	25.9133	1691.27
1.60	593.61	32.70	27.7828	1691.29
1.64	640.41	35.08	29.8069	1691.31
1.68	687.21	37.64	31.9846	1691.33
1.72	734.02	40.39	34.3160	1691.35
1.76	780.82	43.31	36.7998	1691.38
1.81	827.62	46.41	39.4355	1691.41
1.85	874.42	49.69	42.2227	1691.43
1.89	921.22	53.15	45.1606	1691.47
1.93	968.03	56.79	48.2496	1691.50
1.97	1014.83	60.60	51.4892	1691.53
2.02	1077.35	64.62	54.9000	1691.57

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
2.06	1165.45	68.93	58.5606	1691.61
2.10	1253.54	73.58	62.5116	1691.65
2.14	1341.64	78.57	66.7515	1691.69
2.18	1429.73	83.90	71.2794	1691.74
2.23	1517.83	89.56	76.0939	1691.79
2.27	1605.92	95.57	81.1940	1691.84
2.31	1694.02	101.91	86.5784	1691.90
2.35	1782.11	108.58	92.2461	1691.96
2.39	1870.21	117.47	98.1947	1692.02
2.44	1958.30	130.14	104.4094	1692.08
2.48	2046.40	143.35	110.8850	1692.14
2.52	2139.32	157.10	117.6280	1692.21
2.56	2237.57	171.43	124.6540	1692.28
2.60	2335.81	186.35	131.9703	1692.35
2.65	2434.06	201.85	139.5748	1692.42
2.69	2532.30	217.94	147.4655	1692.50
2.73	2630.55	234.61	155.6404	1692.58
2.77	2728.79	251.86	164.0973	1692.66
2.81	2827.04	269.68	172.8345	1692.75
2.86	2925.28	288.06	181.8498	1692.84
2.90	3023.53	307.01	191.1414	1692.93
2.94	3121.77	326.71	200.7059	1693.02
2.98	3220.02	356.70	210.5227	1693.13
3.02	3322.81	385.40	220.5900	1693.24
3.07	3429.02	414.85	230.9190	1693.35
3.11	3535.23	445.05	241.5133	1693.46
3.15	3641.43	476.01	252.3700	1693.57
3.19	3747.64	507.70	263.4866	1693.69
3.23	3853.85	540.13	274.8606	1693.81
3.28	3960.06	573.28	286.4895	1693.94
3.32	4066.26	607.93	298.3700	1694.05
3.36	4172.47	643.96	310.4958	1694.17
3.40	4278.68	680.72	322.8639	1694.29
3.44	4384.89	718.19	335.4716	1694.40
3.49	4491.09	756.37	348.3171	1694.52
3.53	4606.44	795.29	361.4131	1694.64
3.57	4726.36	835.02	374.7809	1694.77
3.61	4846.27	875.57	388.4256	1694.90
3.65	4966.19	919.40	402.3430	1695.03
3.70	5086.11	971.97	416.5064	1695.19
3.74	5206.03	1025.39	430.9020	1695.32
3.78	5325.95	1079.67	445.5270	1695.47
3.82	5445.87	1134.79	460.3784	1695.63
3.86	5565.79	1190.74	475.4532	1695.78
3.91	5685.70	1247.51	490.7487	1695.94
3.95	5805.62	1306.64	506.2601	1696.09
3.99	5925.54	1367.38	521.9790	1696.25
4.03	6051.70	1428.95	537.9124	1696.40
4.07	6179.81	1491.39	554.0720	1696.56
4.12	6307.93	1554.71	570.4580	1696.72

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
4.16	6436.04	1618.89	587.0673	1696.88
4.20	6564.15	1685.04	603.8966	1697.04
4.24	6692.27	1754.80	620.9332	1697.20
4.28	6820.38	1825.37	638.1710	1697.36
4.33	6948.49	1896.76	655.6071	1697.53
4.37	7076.61	1968.95	673.2387	1697.70
4.41	7204.72	2041.93	691.0631	1697.86
4.45	7332.83	2118.92	709.0755	1698.04
4.49	7460.95	2207.75	727.2410	1698.23
4.54	7589.65	2297.20	745.5360	1698.41
4.58	7709.78	2387.25	763.9512	1698.60
4.62	7833.91	2477.86	782.4836	1698.80
4.66	7954.04	2569.05	801.1318	1698.99
4.70	8082.17	2660.78	819.8931	1699.18
4.75	8206.30	2753.06	838.7659	1699.38
4.79	8330.43	2846.77	857.7362	1699.55
4.83	8454.56	3010.58	876.6656	1699.68
4.87	8578.69	3153.88	895.5277	1699.81
4.91	8702.82	3296.68	914.3240	1699.94
4.96	8826.95	3534.21	932.9660	1700.10
5.00	8951.04	3829.51	951.0355	1700.26
5.04	9054.97	4114.81	968.4932	1700.43
5.08	9157.83	4390.09	985.3371	1700.58
5.12	9260.69	4655.85	1001.5991	1700.73
5.17	9363.55	4912.63	1017.3114	1700.88
5.21	9466.41	5174.29	1032.4965	1701.02
5.25	9569.27	5490.10	1047.0183	1701.14
5.29	9672.14	5790.43	1060.8281	1701.26
5.33	9775.00	6076.41	1073.9775	1701.38
5.38	9877.86	6349.07	1086.5148	1701.49
5.42	9980.72	6609.38	1098.4846	1701.59
5.46	10083.58	6858.24	1109.9277	1701.69
5.50	10184.51	7096.42	1120.8796	1701.79
5.54	10246.42	7323.20	1131.3073	1701.88
5.59	10305.32	7538.00	1141.1838	1701.96
5.63	10370.22	7756.40	1150.5346	1702.05
5.67	10432.12	7971.74	1159.3356	1702.13
5.71	10494.03	8174.58	1167.6262	1702.21
5.75	10555.93	8365.94	1175.4477	1702.29
5.80	10617.83	8546.77	1182.8393	1702.36
5.84	10679.73	8717.91	1189.8332	1702.42
5.88	10741.64	8880.16	1196.4646	1702.49
5.92	10803.54	9034.23	1202.7619	1702.55
5.96	10865.44	9180.81	1208.7526	1702.60
6.01	10918.21	9320.11	1214.4465	1702.66
6.05	10915.92	9450.14	1219.7607	1702.71
6.09	10913.63	9569.38	1224.6345	1702.75
6.13	10911.35	9678.74	1229.1040	1702.80
6.17	10909.06	9779.00	1233.2019	1702.84
6.22	10906.77	9870.91	1236.9584	1702.87

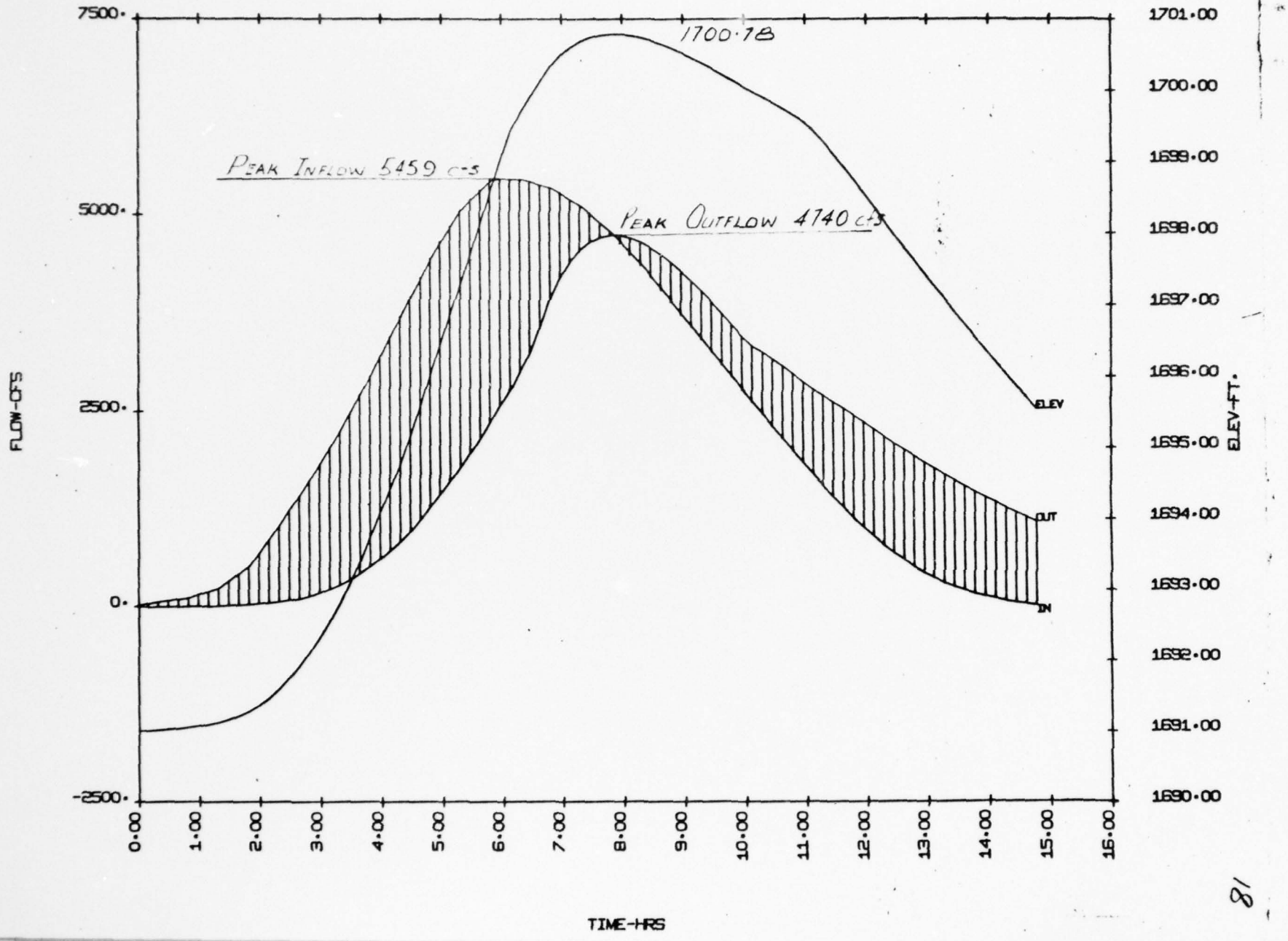
TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
6.26	10904.49	9955.15	1240.4016	1702.90
6.30	10902.20	10032.35	1243.5568	1702.93
6.34	10899.91	10103.07	1246.4475	1702.96
6.38	10897.62	10167.85	1249.0952	1702.99
6.43	10895.33	10227.17	1251.5197	1703.01
6.47	10893.05	10281.48	1253.7392	1703.03
6.51	10886.55	10331.00	1255.7634	1703.05
6.55	10866.50	10375.41	1257.5786	1703.07
6.59	10846.47	10414.56	1259.1794	1703.09
6.64	10826.43	10448.93	1260.5832	1703.10
6.68	10806.39	10478.84	1261.8059	1703.11
6.72	10786.35	10504.69	1262.8625	1703.12
6.76	10766.31	10526.81	1263.7663	1703.13
6.80	10746.27	10545.49	1264.5297	1703.13
6.85	10726.23	10561.02	1265.1645	1703.14
6.89	10706.19	10573.65	1265.6809	1703.14
6.93	10686.15	10583.62	1266.0886	1703.15
6.97	10666.11	10591.15	1266.3962	1703.15
7.01	10639.19	10596.16	1266.6008	1703.15
7.06	10593.48	10598.00	1266.6762	1703.15
7.10	10557.77	10596.38	1266.6101	1703.15
7.14	10517.07	10591.56	1266.4138	1703.15
7.18	10476.36	10583.85	1266.0979	1703.15
7.22	10435.65	10573.44	1265.6723	1703.14
7.27	10394.94	10560.56	1265.1459	1703.14
7.31	10354.23	10545.42	1264.5271	1703.13
7.35	10313.52	10528.19	1263.8230	1703.13
7.39	10272.81	10509.05	1263.0407	1703.12
7.43	10232.10	10488.16	1262.1867	1703.11
7.48	10191.39	10465.65	1261.2668	1703.10
7.52	10144.05	10441.39	1260.2753	1703.09
7.56	10087.83	10414.89	1259.1921	1703.08
7.60	10031.62	10385.97	1258.0100	1703.07
7.64	9975.40	10354.82	1256.7370	1703.06
7.69	9919.18	10321.64	1255.3903	1703.05
7.73	9862.97	10286.58	1253.9480	1703.03
7.77	9806.75	10249.80	1252.4445	1703.02
7.81	9750.53	10211.43	1250.8764	1703.00
7.85	9694.32	10171.62	1249.2490	1702.99
7.90	9638.10	10130.47	1247.5671	1702.97
7.94	9581.88	10088.08	1245.8349	1702.96
7.98	9525.67	10044.58	1244.0568	1702.94
8.02	9462.76	9999.77	1242.2253	1702.92
8.06	9393.75	9953.23	1240.3232	1702.90
8.11	9324.73	9904.87	1238.3464	1702.88
8.15	9255.72	9854.82	1236.3010	1702.86
8.19	9186.71	9803.23	1234.1923	1702.84
8.23	9117.69	9750.22	1232.0258	1702.82
8.27	9048.68	9695.91	1229.8059	1702.80
8.32	8979.67	9640.40	1227.5371	1702.78

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
8.36	8910.66	9583.79	1225.2233	1702.76
8.40	8841.64	9526.17	1222.9884	1702.74
8.44	8772.63	9467.63	1220.4755	1702.71
8.48	8703.62	9408.23	1218.0478	1702.69
8.53	8627.59	9347.76	1215.5764	1702.67
8.57	8547.23	9285.85	1213.0461	1702.64
8.61	8466.87	9222.44	1210.4543	1702.62
8.65	8386.51	9157.65	1207.8061	1702.59
8.69	8306.15	9091.59	1205.1062	1702.57
8.74	8225.79	9024.36	1202.3586	1702.54
8.78	8145.42	8956.07	1199.5673	1702.51
8.82	8065.06	8886.79	1196.7358	1702.49
8.86	7984.70	8816.61	1193.8674	1702.46
8.90	7904.34	8745.61	1190.9653	1702.43
8.95	7823.98	8673.84	1188.0319	1702.40
8.99	7743.62	8601.37	1185.0700	1702.38
9.03	7663.20	8528.26	1182.0817	1702.35
9.07	7582.75	8454.55	1179.0690	1702.32
9.11	7502.31	8380.29	1176.0339	1702.29
9.16	7421.86	8305.52	1172.9782	1702.26
9.20	7341.41	8230.30	1169.9035	1702.23
9.24	7260.97	8154.64	1166.8115	1702.20
9.28	7180.52	8078.60	1163.7036	1702.17
9.32	7100.07	8002.21	1160.5810	1702.14
9.37	7019.63	7925.48	1157.4450	1702.11
9.41	6939.18	7848.45	1154.2966	1702.08
9.45	6858.73	7771.13	1151.1367	1702.05
9.49	6778.29	7693.57	1147.9665	1702.02
9.53	6697.57	7616.34	1144.7863	1701.99
9.58	6617.46	7546.64	1141.5810	1701.97
9.62	6537.06	7476.15	1138.3400	1701.94
9.66	6456.65	7404.95	1135.0659	1701.91
9.70	6376.24	7333.07	1131.7609	1701.88
9.74	6295.83	7260.57	1128.4274	1701.85
9.79	6215.42	7187.50	1125.0676	1701.82
9.83	6135.02	7113.90	1121.6831	1701.79
9.87	6054.61	7039.80	1118.2758	1701.76
9.91	5974.20	6965.24	1114.8476	1701.73
9.95	5893.79	6890.26	1111.3999	1701.70
10.00	5813.39	6814.88	1107.9338	1701.67
10.04	5733.54	6739.16	1104.4519	1701.64
10.08	5653.76	6663.14	1100.9563	1701.61
10.12	5573.98	6586.84	1097.4482	1701.58
10.16	5494.20	6510.29	1093.9284	1701.55
10.21	5414.41	6433.51	1090.3979	1701.52
10.25	5334.63	6356.52	1086.8574	1701.49
10.29	5254.85	6279.31	1083.3073	1701.46
10.33	5175.07	6201.92	1079.7487	1701.43
10.37	5095.29	6124.35	1076.1821	1701.40
10.42	5015.50	6046.62	1072.6081	1701.37

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
10.46	4935.72	5968.75	1069.0273	1701.33
10.50	4855.94	5890.74	1065.4401	1701.30
10.54	4777.66	5812.65	1061.8496	1701.27
10.58	4699.38	5734.55	1058.2583	1701.24
10.63	4621.10	5656.43	1054.6665	1701.21
10.67	4542.82	5578.31	1051.0742	1701.18
10.71	4464.54	5500.17	1047.4812	1701.15
10.75	4386.26	5422.02	1043.8876	1701.12
10.79	4307.98	5343.86	1040.2939	1701.08
10.84	4229.70	5265.69	1036.6997	1701.05
10.88	4151.42	5187.52	1033.1049	1701.02
10.92	4073.14	5111.96	1029.5095	1700.99
10.96	3994.86	5052.51	1025.8708	1700.96
11.00	3916.89	4992.03	1022.1701	1700.92
11.05	3841.91	4930.67	1018.4155	1700.89
11.09	3766.92	4868.56	1014.6149	1700.85
11.13	3691.94	4805.74	1010.7709	1700.82
11.17	3616.96	4742.25	1006.8859	1700.78
11.21	3541.98	4678.12	1002.9621	1700.74
11.26	3467.00	4613.40	999.0017	1700.71
11.30	3392.01	4548.11	995.0065	1700.67
11.34	3317.03	4482.29	990.9787	1700.63
11.38	3243.05	4415.95	986.9200	1700.60
11.42	3167.07	4349.15	982.8321	1700.56
11.47	3092.08	4281.89	978.7166	1700.52
11.51	3018.36	4214.24	974.5772	1700.48
11.55	2950.00	4146.41	970.4263	1700.44
11.59	2881.64	4078.54	966.2738	1700.41
11.63	2813.28	4010.65	962.1195	1700.37
11.68	2744.92	3942.73	957.9636	1700.33
11.72	2676.56	3874.79	953.8062	1700.29
11.76	2608.21	3806.82	949.6474	1700.25
11.80	2539.85	3738.84	945.4874	1700.21
11.84	2471.49	3670.83	941.3260	1700.17
11.89	2403.13	3602.81	937.1635	1700.14
11.93	2334.77	3534.76	932.9998	1700.10
11.97	2266.41	3466.70	928.8352	1700.06
12.01	2200.78	3398.69	924.6740	1700.02
12.05	2142.00	3343.79	920.5251	1699.98
12.10	2083.21	3311.75	916.3073	1699.96
12.14	2024.43	3279.01	911.9980	1699.93
12.18	1965.65	3245.59	907.5994	1699.90
12.22	1906.86	3211.51	903.1140	1699.86
12.26	1848.08	3176.79	898.5439	1699.83
12.31	1789.30	3141.45	893.8913	1699.80
12.35	1730.51	3105.49	889.1585	1699.77
12.39	1671.73	3068.94	884.3475	1699.73
12.43	1612.94	3031.81	879.4603	1699.70
12.47	1554.16	2994.12	874.4990	1699.67
12.52	1500.21	2955.94	869.4736	1699.63

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
12.56	1434.15	2917.45	864.4078	1699.60
12.60	1403.09	2878.77	859.3160	1699.56
12.64	1362.03	2839.69	854.1989	1699.52
12.68	1315.97	2803.38	849.0557	1699.49
12.73	1269.91	2777.96	843.8571	1699.43
12.77	1223.85	2752.19	838.5875	1699.39
12.81	1177.79	2726.08	833.2490	1699.32
12.85	1131.73	2699.64	827.8398	1699.27
12.89	1085.67	2672.66	822.3541	1699.21
12.94	1039.61	2645.77	816.8220	1699.15
12.98	993.55	2618.35	811.2147	1699.09
13.02	953.73	2590.67	805.5539	1699.04
13.06	920.80	2562.84	799.8632	1698.98
13.10	887.86	2534.93	794.1550	1698.92
13.15	854.93	2506.94	788.4294	1698.86
13.19	822.00	2478.86	782.6868	1698.80
13.23	789.07	2450.70	776.9276	1698.74
13.27	756.14	2422.45	771.1519	1698.68
13.31	723.20	2394.13	765.3601	1698.62
13.36	690.27	2365.74	759.5523	1698.56
13.40	657.34	2337.26	753.7290	1698.50
13.44	624.41	2308.71	747.8903	1698.44
13.48	591.48	2280.09	742.0366	1698.38
13.52	564.80	2251.45	736.1738	1698.32
13.57	542.84	2222.88	730.3359	1698.26
13.61	520.89	2194.42	724.5157	1698.20
13.65	498.93	2166.07	718.7180	1698.14
13.69	476.97	2137.83	712.9422	1698.08
13.73	455.01	2109.69	707.1881	1698.02
13.78	433.06	2084.47	701.4522	1697.96
13.82	411.10	2061.01	695.7227	1697.91
13.86	389.14	2037.57	689.9924	1697.85
13.90	367.18	2014.16	684.2791	1697.80
13.94	345.23	1990.76	678.5849	1697.75
13.99	323.27	1967.38	672.8557	1697.69
14.03	306.56	1944.07	667.1604	1697.64
14.07	292.50	1920.86	661.4924	1697.58
14.11	278.44	1897.79	655.8559	1697.53
14.15	264.37	1874.83	650.2506	1697.48
14.20	250.31	1852.01	644.6757	1697.43
14.24	236.25	1829.31	639.1312	1697.37
14.28	222.19	1806.73	633.6164	1697.32
14.32	208.12	1784.27	628.1309	1697.27
14.36	194.06	1761.93	622.6744	1697.22
14.41	180.00	1739.70	617.2466	1697.17
14.45	165.94	1717.59	611.8465	1697.12
14.49	151.87	1695.60	606.4744	1697.07
14.53	142.11	1673.74	601.1370	1697.02
14.57	133.69	1652.80	595.8430	1696.96
14.62	125.27	1632.50	590.5906	1696.91

	TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
	14.66	116.86	1612.36	585.3793	1696.86
	14.70	108.44	1592.38	580.2084	1696.81
	14.74	100.03	1572.56	575.0775	1696.76
	14.78	91.61	1552.88	569.9858	1696.71
	14.83	83.20	1533.36	564.9329	1696.66
	14.87	74.78	1513.93	559.9184	1696.62
	14.91	66.37	1494.75	554.9416	1696.57
	14.95	57.95	1475.66	550.0021	1696.52
	14.99	49.53	1456.72	545.0994	1696.47
MAX. VALUES		10918.21	10598.00		1703.15
MIN. VALVES		0.00	0.00		1691.00


MYOSOTIS LAKE HALF P.M.F
1700.78
PEAK INFLOW 5459 cfs
PEAK OUTFLOW 4740 cfs
ELEV
OUT
IN
FLOW-CFS
ELEV-FT.
7500.
5000.
2500.
0.
-2500.
1701.00
1700.00
1699.00
1698.00
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1696.00
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11:00
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14:00
15:00
16:00
TIME-HRS

81

MYOSOTIS LAKE DAM
JOB 1487-16
DAM INSPECTION

HALF PMF

INPUT PARAMETERS

STARTING ELEV (FT.)	TIME INTERVAL (HOURS)	STARTING TIME (HOURS)	ENDING TIME (HOURS)	PRINT INTERVAL	GATE OPTION	PLOT OPTION	STORAGE COEF.	OUTFLOW COEF.	INFLOW COEF.	TIME COEF.	BREAK TIME
1691.00	0.04	0.00	15.00	1	NO	YES	1.000	1.000	0.500	1.000	0.000

RESERVOIR ELEV. (FT.)	RESERVOIR STORAGE (ACFT)	RESERVOIR OUTFLOW (CFS)
1691.00	0.0000	0.00
1692.00	96.0000	113.00
1693.00	198.0000	321.00
1694.00	292.0000	589.00
1695.00	399.0000	907.00
1696.00	496.0000	1267.00
1697.00	599.0001	1665.00
1698.00	705.0001	2099.00
1699.50	850.0001	2808.00
1700.00	922.0001	3355.00
1701.00	1030.0002	5120.00
1702.00	1145.0002	7621.00
1703.00	1250.0002	10190.00

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
0.00	0.00		0.0000	1691.00
0.04	5.54	0.01	0.0096	1691.00
0.08	11.09	0.04	0.0384	1691.00
0.13	16.64	0.10	0.0862	1691.00
0.17	22.19	0.18	0.1532	1691.00
0.21	27.74	0.28	0.2390	1691.00
0.25	33.29	0.40	0.3438	1691.00
0.29	38.84	0.55	0.4673	1691.00
0.34	44.38	0.71	0.6096	1691.00
0.38	49.93	0.90	0.7704	1691.00
0.42	55.48	1.11	0.9499	1691.01
0.46	61.03	1.35	1.1478	1691.01
0.50	66.42	1.60	1.3639	1691.01
0.55	70.35	1.87	1.5953	1691.01
0.59	74.27	2.16	1.8393	1691.01
0.63	78.20	2.46	2.0959	1691.02
0.67	82.12	2.78	2.3650	1691.02
0.71	86.04	3.11	2.6466	1691.02
0.76	89.97	3.46	2.9407	1691.03
0.80	93.89	3.82	3.2472	1691.03
0.84	97.81	4.19	3.5660	1691.03
0.88	101.74	4.58	3.8970	1691.04
0.92	105.66	4.99	4.2404	1691.04
0.97	109.58	5.40	4.5959	1691.04
1.01	114.85	5.84	4.9659	1691.05
1.05	125.81	6.31	5.3625	1691.05
1.09	136.78	6.82	5.7955	1691.06
1.13	147.75	7.37	6.2646	1691.06
1.18	158.72	7.96	6.7699	1691.07
1.22	169.68	8.60	7.3111	1691.07
1.26	180.65	9.28	7.8881	1691.08
1.30	191.62	10.00	8.5007	1691.08
1.34	202.58	10.76	9.1488	1691.09
1.39	213.55	11.57	9.8323	1691.10
1.43	224.52	12.41	10.5509	1691.11
1.47	235.48	13.30	11.3046	1691.11
1.51	250.00	14.24	12.0994	1691.12
1.55	273.40	15.25	12.9566	1691.13
1.60	296.80	16.35	13.8914	1691.14
1.64	320.20	17.54	14.9034	1691.15
1.68	343.60	18.82	15.9924	1691.16
1.72	367.01	20.19	17.1580	1691.17
1.76	390.41	21.65	18.3999	1691.19
1.81	413.81	23.20	19.7177	1691.20
1.85	437.21	24.84	21.1113	1691.21
1.89	460.61	26.57	22.5803	1691.23
1.93	484.01	28.39	24.1243	1691.25
1.97	507.41	30.30	25.7431	1691.26
2.02	530.67	32.31	27.4500	1691.29

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
2.06	582.72	34.46	29.2803	1691.30
2.10	626.77	36.79	31.2558	1691.32
2.14	670.82	39.28	33.3757	1691.34
2.18	714.86	41.95	35.6397	1691.37
2.23	758.91	44.78	38.0469	1691.39
2.27	802.96	47.78	40.5970	1691.42
2.31	847.01	50.95	43.2892	1691.45
2.35	891.05	54.29	46.1230	1691.48
2.39	935.10	57.79	49.0979	1691.51
2.44	979.15	61.45	52.2131	1691.54
2.48	1023.20	65.29	55.4683	1691.57
2.52	1069.66	69.29	58.8670	1691.61
2.56	1118.78	73.47	62.4173	1691.65
2.60	1167.90	77.83	66.1234	1691.68
2.65	1217.03	82.37	69.9845	1691.72
2.69	1266.15	87.10	74.0000	1691.77
2.73	1315.27	92.01	78.1693	1691.81
2.77	1364.39	97.09	82.4917	1691.85
2.81	1413.52	102.36	86.9667	1691.90
2.86	1462.64	107.81	91.5936	1691.95
2.90	1511.76	113.75	96.3716	1692.00
2.94	1560.88	123.79	101.2920	1692.05
2.98	1610.01	134.10	106.3476	1692.10
3.02	1661.40	144.69	111.5414	1692.15
3.07	1714.51	155.57	116.8795	1692.20
3.11	1767.61	166.76	122.3632	1692.25
3.15	1820.71	178.23	127.9921	1692.31
3.19	1873.82	190.01	133.7649	1692.37
3.23	1926.92	202.07	139.6808	1692.42
3.28	1980.03	214.42	145.7385	1692.48
3.32	2033.13	227.06	151.9373	1692.54
3.36	2086.23	239.99	158.2760	1692.61
3.40	2139.34	253.20	164.7536	1692.67
3.44	2192.44	266.69	171.3692	1692.73
3.49	2245.54	280.46	178.1219	1692.80
3.53	2297.22	294.52	185.0184	1692.87
3.57	2343.18	308.90	192.0696	1692.94
3.61	2423.13	324.64	199.2783	1693.01
3.65	2483.09	345.60	206.6299	1693.09
3.70	2543.05	366.94	214.1162	1693.17
3.74	2603.01	388.67	221.7359	1693.25
3.78	2662.97	410.77	229.4877	1693.33
3.82	2722.93	433.24	237.3703	1693.41
3.86	2782.89	456.08	245.3822	1693.50
3.91	2842.85	479.29	253.5224	1693.59
3.95	2902.81	502.86	261.7896	1693.67
3.99	2962.77	526.79	270.1824	1693.76
4.03	3025.85	551.09	278.7051	1693.85
4.07	3089.90	575.78	287.3634	1693.95
4.12	3157.96	601.35	296.1574	1694.03

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
4.16	3218.02	627.88	305.0827	1694.12
4.20	3282.07	654.79	314.1376	1694.20
4.24	3346.13	682.08	323.3208	1694.29
4.28	3410.19	709.75	332.6309	1694.37
4.33	3474.24	737.79	342.0667	1694.46
4.37	3538.30	766.20	351.6269	1694.55
4.41	3602.36	794.98	361.3102	1694.64
4.45	3666.41	824.12	371.1152	1694.73
4.49	3730.47	853.62	381.0409	1694.83
4.54	3792.82	883.47	391.0830	1694.92
4.58	3854.69	913.29	401.2358	1695.02
4.62	3916.95	953.32	411.4909	1695.12
4.66	3979.02	991.65	421.8089	1695.23
4.70	4041.08	1030.28	432.2188	1695.34
4.75	4103.15	1069.22	442.7094	1695.45
4.79	4165.21	1108.45	453.2799	1695.55
4.83	4227.28	1147.97	463.9290	1695.66
4.87	4289.34	1187.78	474.6560	1695.78
4.91	4351.41	1227.88	485.4597	1695.89
4.96	4413.47	1268.31	496.3391	1696.00
5.00	4475.54	1310.62	507.2903	1696.10
5.04	4527.48	1353.13	518.2922	1696.21
5.08	4579.41	1395.77	529.3256	1696.32
5.12	4630.34	1438.52	540.3994	1696.43
5.17	4681.77	1481.39	551.4830	1696.53
5.21	4733.20	1524.37	562.6062	1696.64
5.25	4784.63	1567.46	573.7585	1696.75
5.29	4836.07	1610.66	584.9396	1696.86
5.33	4887.50	1653.98	596.1491	1696.97
5.38	4938.93	1699.32	607.3840	1697.07
5.42	4990.36	1745.40	618.6379	1697.18
5.46	5041.79	1791.55	629.9102	1697.29
5.50	5092.25	1837.77	641.1992	1697.39
5.54	5123.21	1883.92	652.4691	1697.50
5.59	5154.16	1929.64	663.6966	1697.61
5.63	5185.11	1975.56	674.8525	1697.71
5.67	5216.06	2021.07	685.9676	1697.82
5.71	5247.01	2066.37	697.0325	1697.92
5.75	5277.96	2113.69	708.0466	1698.03
5.80	5306.91	2167.40	718.9898	1698.14
5.84	5339.86	2220.53	729.8554	1698.25
5.88	5370.82	2273.29	740.6447	1698.36
5.92	5401.77	2325.67	751.3590	1698.47
5.96	5432.72	2377.70	761.9993	1698.58
6.01	5459.10	2429.34	772.5594	1698.69
6.05	5457.96	2480.32	782.9852	1698.80
6.09	5456.81	2530.42	793.2315	1698.91
6.13	5455.67	2579.66	803.3015	1699.01
6.17	5454.53	2628.05	813.1981	1699.11
6.22	5453.38	2675.60	822.9241	1699.21

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
6.26	5452.24	2722.34	832.4826	1699.31
6.30	5451.10	2768.27	841.8763	1699.41
6.34	5449.95	2816.40	851.1063	1699.50
6.38	5446.81	2884.92	860.1261	1699.57
6.43	5447.66	2951.64	868.9072	1699.63
6.47	5446.52	3016.58	877.4558	1699.69
6.51	5443.27	3079.78	885.7744	1699.74
6.55	5433.25	3141.16	893.8537	1699.80
6.59	5423.23	3200.68	901.6856	1699.85
6.64	5413.21	3258.40	909.2851	1699.91
6.68	5403.19	3314.35	916.6496	1699.96
6.72	5393.17	3364.07	923.7791	1700.01
6.76	5383.15	3494.59	930.5418	1700.07
6.80	5373.13	3598.46	936.8978	1700.13
6.85	5363.11	3696.05	942.8693	1700.19
6.89	5353.09	3787.71	948.4777	1700.24
6.93	5343.07	3873.76	953.7431	1700.29
6.97	5333.05	3954.51	958.6843	1700.33
7.01	5319.59	4030.16	963.3133	1700.38
7.06	5299.24	4100.71	967.6301	1700.42
7.10	5278.88	4166.24	971.6401	1700.45
7.14	5258.53	4227.04	975.3603	1700.49
7.18	5238.18	4283.36	978.8066	1700.52
7.22	5217.82	4335.45	981.9942	1700.55
7.27	5197.47	4383.55	984.9373	1700.58
7.31	5177.11	4427.88	987.6495	1700.60
7.35	5156.76	4468.63	990.1434	1700.63
7.39	5136.40	4506.02	992.4310	1700.65
7.43	5116.05	4540.22	994.5238	1700.67
7.48	5095.69	4571.41	996.4324	1700.68
7.52	5072.02	4599.67	998.1616	1700.70
7.56	5043.61	4624.94	999.7080	1700.71
7.60	5015.21	4647.27	1001.0743	1700.73
7.64	4987.70	4666.82	1002.2705	1700.74
7.69	4959.59	4683.74	1003.3057	1700.75
7.73	4931.48	4698.18	1004.1890	1700.76
7.77	4903.37	4710.27	1004.9268	1700.76
7.81	4875.26	4720.14	1005.5329	1700.77
7.85	4847.16	4727.92	1006.0089	1700.77
7.90	4819.05	4733.72	1006.3657	1700.78
7.94	4790.94	4737.65	1006.6042	1700.78
7.98	4762.83	4739.81	1006.7365	1700.78
8.02	4731.38	4740.21	1006.7611	1700.78
8.06	4696.87	4738.77	1006.6729	1700.78
8.11	4662.36	4735.51	1006.4732	1700.78
8.15	4627.86	4730.52	1006.1682	1700.77
8.19	4593.35	4723.91	1005.7635	1700.77
8.23	4558.84	4715.76	1005.2647	1700.77
8.27	4524.34	4706.15	1004.6770	1700.76
8.32	4489.83	4695.17	1004.0052	1700.75

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
8.36	4455.33	4682.89	1003.2540	1700.75
8.40	4429.82	4669.39	1002.4278	1700.74
8.44	4386.31	4654.73	1001.5307	1700.73
8.48	4351.81	4636.98	1000.5667	1700.72
8.53	4313.79	4622.09	999.5335	1700.71
8.57	4273.61	4603.98	998.4254	1700.70
8.61	4233.43	4584.66	997.2427	1700.69
8.65	4193.25	4564.18	995.9897	1700.68
8.69	4153.07	4542.61	994.6701	1700.67
8.74	4112.99	4520.02	993.2878	1700.66
8.78	4072.71	4496.46	991.8461	1700.64
8.82	4032.53	4471.98	990.3483	1700.63
8.86	3992.35	4446.64	988.7976	1700.61
8.90	3952.17	4420.48	987.1967	1700.60
8.95	3911.99	4393.54	985.5485	1700.58
8.99	3871.81	4365.88	983.8557	1700.57
9.03	3831.60	4337.52	982.1206	1700.55
9.07	3791.37	4308.51	980.3454	1700.54
9.11	3751.15	4278.88	978.5324	1700.52
9.16	3710.93	4248.67	976.6837	1700.50
9.20	3670.70	4217.90	974.8012	1700.49
9.24	3630.48	4186.62	972.8868	1700.47
9.28	3590.26	4154.84	970.9422	1700.45
9.32	3550.03	4122.59	968.9692	1700.43
9.37	3509.81	4089.91	966.9692	1700.41
9.41	3469.59	4056.81	964.9438	1700.39
9.45	3429.36	4023.31	962.8944	1700.37
9.49	3389.14	3989.45	960.8222	1700.35
9.53	3348.93	3955.23	958.7286	1700.34
9.58	3308.73	3920.69	956.6148	1700.32
9.62	3268.53	3885.83	954.4819	1700.30
9.66	3228.32	3850.68	952.3309	1700.28
9.70	3188.12	3815.25	950.1629	1700.26
9.74	3147.91	3779.56	947.9788	1700.24
9.79	3107.71	3743.61	945.7795	1700.22
9.83	3067.51	3707.43	943.5657	1700.19
9.87	3027.30	3671.03	941.3385	1700.17
9.91	2987.10	3634.43	939.0983	1700.15
9.95	2946.89	3597.62	936.8460	1700.13
10.00	2906.69	3560.62	934.5823	1700.11
10.04	2866.77	3523.46	932.3083	1700.09
10.08	2826.88	3486.14	930.0250	1700.07
10.12	2786.99	3448.69	927.7330	1700.05
10.16	2747.10	3411.09	925.4327	1700.03
10.21	2707.20	3373.37	923.1247	1700.01
10.25	2667.31	3335.90	920.8023	1699.99
10.29	2627.42	3327.72	918.4093	1699.97
10.33	2587.53	3308.97	915.9416	1699.95
10.37	2547.64	3289.67	913.4021	1699.94
10.42	2507.75	3269.84	910.7917	1699.92

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
10.46	2467.86	3249.49	908.1126	1699.90
10.50	2427.97	3228.63	905.3667	1699.88
10.54	2388.83	3207.28	902.5567	1699.86
10.58	2349.69	3185.47	899.6859	1699.84
10.63	2310.55	3163.21	896.7556	1699.82
10.67	2271.41	3140.51	893.7675	1699.80
10.71	2232.27	3117.38	890.7231	1699.78
10.75	2193.13	3093.83	887.6239	1699.76
10.79	2153.99	3069.88	884.4711	1699.73
10.84	2114.85	3045.53	881.2664	1699.71
10.88	2075.71	3020.80	878.0111	1699.69
10.92	2036.57	2995.69	874.7064	1699.67
10.96	1997.43	2970.22	871.3536	1699.64
11.00	1958.44	2944.40	867.9543	1699.62
11.05	1920.95	2918.25	864.5124	1699.60
11.09	1883.46	2891.81	861.0317	1699.57
11.13	1845.97	2865.07	857.5131	1699.55
11.17	1808.48	2838.06	853.9577	1699.52
11.21	1770.99	2810.78	850.3664	1699.50
11.26	1733.50	2791.99	846.7259	1699.46
11.30	1696.00	2773.86	843.0183	1699.42
11.34	1658.51	2755.40	839.2440	1699.39
11.38	1621.02	2736.63	835.4041	1699.34
11.42	1583.53	2717.54	831.4998	1699.30
11.47	1546.04	2698.14	827.5323	1699.26
11.51	1509.18	2678.44	823.5035	1699.22
11.55	1475.00	2658.47	819.4202	1699.18
11.59	1440.82	2636.27	815.2892	1699.14
11.63	1406.64	2617.83	811.1080	1699.09
11.68	1372.46	2597.16	806.8904	1699.05
11.72	1338.28	2576.26	802.6064	1699.00
11.76	1304.10	2555.13	798.2567	1698.96
11.80	1269.92	2533.79	793.9221	1698.91
11.84	1235.74	2512.24	789.5133	1698.87
11.89	1201.56	2490.47	785.0610	1698.82
11.93	1167.38	2468.49	780.5660	1698.78
11.97	1133.20	2446.30	776.0290	1698.73
12.01	1100.39	2423.93	771.4531	1698.68
12.05	1071.00	2401.41	766.8471	1698.63
12.10	1041.60	2378.77	762.2175	1698.59
12.14	1012.21	2356.02	757.5646	1698.54
12.18	982.92	2333.15	752.8889	1698.49
12.22	953.43	2310.18	748.1906	1698.44
12.26	924.04	2287.10	743.4703	1698.39
12.31	894.65	2263.91	738.7282	1698.34
12.35	865.25	2240.62	733.9649	1698.29
12.39	835.86	2217.23	729.1806	1698.25
12.43	806.47	2193.73	724.3756	1698.20
12.47	777.08	2170.14	719.5502	1698.15
12.52	750.10	2146.47	714.7092	1698.10

TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
12.56	727.07	2122.78	709.8635	1698.05
12.60	704.04	2099.09	705.0201	1698.00
12.64	681.01	2079.23	700.1723	1697.95
12.68	657.98	2059.34	695.3136	1697.90
12.73	634.95	2039.40	690.4440	1697.86
12.77	611.92	2019.42	685.5638	1697.81
12.81	588.89	1999.39	680.6730	1697.77
12.85	565.86	1979.33	675.7719	1697.72
12.89	542.83	1959.22	670.8607	1697.67
12.94	519.80	1939.07	665.9393	1697.63
12.98	496.77	1918.88	661.0080	1697.58
13.02	476.86	1898.67	656.0723	1697.53
13.06	460.40	1878.49	651.1436	1697.49
13.10	443.93	1858.36	646.2277	1697.44
13.15	427.46	1838.29	641.3244	1697.39
13.19	411.00	1818.26	636.4335	1697.35
13.23	394.53	1798.29	631.5550	1697.30
13.27	378.07	1778.36	626.6886	1697.26
13.31	361.60	1758.48	621.8339	1697.21
13.36	345.13	1738.66	616.9912	1697.16
13.40	328.67	1718.88	612.1599	1697.12
13.44	312.20	1699.14	607.3400	1697.07
13.48	295.74	1679.45	602.5314	1697.03
13.52	282.40	1660.12	597.7392	1696.98
13.57	271.42	1641.69	592.9699	1696.94
13.61	260.44	1623.36	588.2264	1696.89
13.65	249.46	1605.13	583.5081	1696.84
13.69	238.48	1587.00	578.8149	1696.80
13.73	227.50	1568.96	574.1463	1696.75
13.78	216.53	1551.01	569.5021	1696.71
13.82	205.55	1533.16	564.8820	1696.66
13.86	194.57	1515.40	560.2856	1696.62
13.90	183.59	1497.73	555.7125	1696.57
13.94	172.61	1480.15	551.1624	1696.53
13.99	161.63	1462.65	546.6352	1696.48
14.03	153.26	1445.26	542.1350	1696.44
14.07	146.25	1428.00	537.6682	1696.40
14.11	139.22	1410.88	533.2366	1696.36
14.15	132.18	1393.89	528.8399	1696.31
14.20	125.15	1377.03	524.4775	1696.27
14.24	118.12	1360.31	520.1490	1696.23
14.28	111.09	1343.71	515.8538	1696.19
14.32	104.06	1327.24	511.5917	1696.15
14.36	97.03	1310.90	507.3621	1696.11
14.41	90.00	1294.68	503.1647	1696.06
14.45	82.97	1278.58	498.9989	1696.02
14.49	75.93	1262.78	494.8643	1695.99
14.53	71.05	1247.56	490.7626	1695.94
14.57	66.84	1232.47	486.6878	1695.90
14.62	62.63	1217.52	482.6404	1695.86

	TIME (HRS)	INFLOW (CFS)	OUTFLOW (CFS)	STORAGE (ACFT)	ELEVATION (FT.)
	14.66	58.43	1202.72	478.6801	1695.82
	14.70	54.22	1198.04	474.7264	1695.78
	14.74	50.01	1173.50	470.8088	1695.74
	14.78	45.80	1159.09	466.9268	1695.70
	14.83	41.60	1144.82	463.0800	1695.66
	14.87	37.39	1130.67	459.2679	1695.62
	14.91	33.18	1116.65	455.4901	1695.58
	14.95	28.97	1102.75	451.7461	1695.54
	14.99	24.76	1088.98	448.0355	1695.50
MAX. VALUES		5459.10	4740.21		1700.78
MIN. VALVES		0.00	0.00		1691.00